Resource Consents and Conditions

Version as at 28 March 2024.

Tracked amendments in this version show key amendments made since the 28 April 2023 version of conditions (all previous track accepted). Minor amendments have been made (eg capitalisation and use of defined terms, but these changes are not tracked).

The amendments to these conditions reflect changes proposed by Waste Management to address matters raised in the Environment Court's interim decision.

Conditions of Consent

These conditions are structured as follows:

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Part A – Definitions

Initial Construction Commencement Date – is the date that Initial Site Construction Works will commence, such date to be notified 30 working days in advance by the Consent Holder to Council.

Initial Construction Completion Date – is the date that the Consent Holder notifies the Council that the Initial Site Construction Works are complete.

Council – means, unless otherwise stated, Auckland Council, Council Monitoring Inspector.

Initial Site Construction Works – those works required on Site prior to the receipt of waste, including, but not limited to construction of the sediment retention/stormwater ponds, the State Highway 1 roundabout, the access road and bridge from State Highway 1 to the bin exchange area, the bin exchange area, the access road from the bin exchange area to the landfill area, the workshop and Site facilities, the initial earthworks to prepare the first part of the landfill to receive waste, and associated removal of vegetation and material to stockpiles and removal of clay material to the clay borrow area.

Landfill Capping Completion Date – is the date on which the Consent Holder gives notice to Council that the final capping of the landfill is complete and that post-closure aftercare will commence.

Landfill Commencement Date – is the date that waste acceptance commences at the landfill, such date to be notified to Council in writing.

Seasonal Construction Works – those earthworks after the Landfill Commencement Date relating to the preparation of a landfill cell within the Landfill Valley, including any earthworks relating to the construction of any associated access roads or extensions to existing roads to access that new landfill cell.

Site – is the landholdings identified as "WMNZ Landholding" in Figure 1, Rev C "Landscape Context" prepared by Boffa Miskell Limited and dated 11 May 2022.

Part B – General Conditions

1 The activity shall be carried out in general accordance with the application comprising the following plans and reports:

- 'Auckland Regional Landfill Assessment of Environmental Effects' prepared by Tonkin & Taylor Ltd, dated May 2019;
- 'Auckland Regional Landfill Geotechnical Factual Report' prepared by Tonkin & Taylor Ltd, dated May 2019;
- 'Auckland Regional Landfill Geotechnical Interpretative Report' prepared by Tonkin & Taylor Ltd, dated May 2019;
- 'Auckland Regional Landfill Probabilistic Seismic Hazard Assessment', prepared by Tonkin & Taylor Ltd, dated May 2019;
- 'Auckland Regional Landfill Air Quality Assessment', prepared by Tonkin & Taylor Ltd, dated May 2019;
- 'Auckland Regional Landfill Hydrogeology Assessment', prepared by Tonkin & Taylor Ltd, dated May 2019;
- 'Auckland Regional Landfill Baseline Monitoring Report', prepared by Tonkin & Taylor Ltd, dated October 2020;
- 'Auckland Regional Landfill Assessment of Aquatic and Terrestrial Ecological Values and Effects', prepared by Tonkin & Taylor Ltd, dated May 2019;
- 'Landscape and Visual Assessment', prepared by Boffa Miskell Ltd, dated May 2019;
- 'Assessment of Economic Effects of the Proposed Auckland Regional Landfill', prepared by Brown Copelands & Co Ltd, dated May 2019;
- 'Archaeological Assessment: Proposed Works', prepared by Matthew Felgate, dated September 2018;
- 'Auckland Regional Landfill Assessment of Environmental Noise Effects", prepared by Marshall Day, dated May 2019;
- 'Auckland Regional Landfill – Integrated Transport Assessment', prepared by Stantec, dated May 2019;
- 'Auckland Regional Landfill Engineering Report', prepared by Tonkin & Taylor Ltd, dated May 2019;
- 'Auckland Regional Landfill Waste Acceptance Criteria', prepared by Tonkin & Taylor Ltd, dated May 2019;
- 'Auckland Regional Landfill Stormwater and Industrial Trade Activity Report', prepared by Tonkin & Taylor Ltd, dated May 2019;
- 'Auckland Regional Landfill Sediment and Erosion Control Assessment', prepared by Tonkin & Taylor Ltd, dated May 2019;
- 'Auckland Regional Landfill Risk Management Assessment', prepared by AECOM, dated May 2019;
- 'Auckland Regional Landfill Complied Further Information Responses', prepared by Tonkin & Taylor Ltd, dated March 2020;
- 'Auckland Regional Landfill Stormwater pond dams: s92 response addendum report', prepared by Tonkin & Taylor Ltd, dated August 2020;
- 'Response to outstanding Freshwater Ecology section 92 questions', prepared by Tonkin & Taylor Ltd, dated August 2020;
- 'Response to outstanding Terrestrial Ecology Section 92 questions', prepared by Tonkin & Taylor Ltd, dated August 2020;
- 'Auckland Regional Landfill – Supplementary 2020 Frog Survey Report', prepared by Tonkin & Taylor Ltd, dated August 2020;
- 'Auckland Regional Landfill Supplementary long-tailed bat report', prepared by Tonkin & Taylor Ltd, dated August 2020;

- ‘Auckland Regional Landfill Hydrogeological Assessment – Addendum Report (Volume 1), prepared by Tonkin & Taylor Ltd, dated August 2020;
- ‘Auckland Regional Landfill – Hydrogeological Assessment Addendum Report (Volume 2), prepared by Tonkin & Taylor Ltd, dated August 2020;
- ‘Auckland Regional Landfill Geotechnical Addendum Report’, prepared by Tonkin & Taylor Ltd, dated August 2020;
- ‘Sediment, Stormwater, and Waste Acceptance Criteria Additional s92 Responses’, prepared by Tonkin & Taylor Ltd, dated August 2020;
- ‘Further Stormwater and Health Risk Assessment s92 Responses’, prepared by Tonkin & Taylor Ltd, dated August 2020;
- ‘Removal of Stockpile 2 from the Auckland Regional Landfill resource consent application BUN60339589’, prepared by Tonkin & Taylor Ltd, dated August 2020;
- Tech Memo from Chris Bailey to Aslan Perwick, 28 August 2020, titled “Follow up to Hydrogeology Addendum Report V3, Fate & Transport Modelling” Ref 1005069.013;
- 'Flooding Assessment Report', prepared by Tonkin & Taylor Ltd, dated September 2020 Rev v2;
- 'Auckland Regional Landfill – Human Health Risk Assessment', prepared by Tonkin & Taylor Ltd, dated November 2020, Rev v2;
- ‘Auckland Regional Landfill – Terrestrial and Wetland Biodiversity Offsets and Compensation Framework’, prepared by Tonkin & Taylor Ltd, dated August 2020;
- ‘Auckland Regional Landfill – Draft Landfill Management Plan’, prepared by Waste Management New Zealand Ltd, dated June 2022;
- ‘Auckland Regional Landfill – Draft Ecological Mitigation Plan’, prepared by Tonkin & Taylor Ltd, dated June 2022;
- ‘Auckland Regional Landfill – Draft Construction Surface Water Ecological Monitoring, Management and Response Framework;
- Draft Ecological Residual Effects Management Plan, prepared by Tonkin &Taylor Ltd, dated June 2022
- Draft Landscape and Visual Management Plan, prepared by Boffa Miskell Ltd, dated June 2022
- Sheet ENG-01 Site: Site Plan, Rev 3;
- Sheet ENG-02 Site: Landfill Layout Plan – West, Rev 2;
- Sheet ENG-03 Site: Landfill Layout Plan – East, Rev 1;
- Sheet ENG-04 Site: Landfill Layout Plan - phases 1-6, Rev 1;
- Sheet ENG-05 Landfill: Office & Workshop Layout, Rev 1;
- Sheet ENG-06 Landfill: Renewable Energy Centre Layout, Rev 1;
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- Sheet ENG-11 Landfill: Cut/Fill Plan, Rev 3;
- Sheet ENG-12 Landfill: Final Cap Contours (Post Settlement), Rev 3;
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- Sheet ENG-16 Landfill: Landfill Sections (Sheet 1 of 3), Rev 3;
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- Sheet ENG-21 Landfill: Typical Bench Detail, Rev 3;
- Sheet ENG-25 Landfill: Phase Plan, Rev 3;
- Sheet ENG-28 Landfill: Landfill Staging Sections, Rev 3;
- Sheet ENG-30 Bin Exchange Area and Landfill Access Road: Overall Plan, Rev 2;
- Sheet ENG-31 Bin Exchange Area and Landfill Access Road: Bin Exchange Area, Rev 2;

- Sheet ENG-32 Bin Exchange Area and Landfill Access Road: Waiteraire Stream Bridge, Rev 2;
- Sheet ENG-33 Bin Exchange Area and Landfill Access Road: Road Long Section, Rev 2;
- Sheet ENG-34 Bin Exchange Area and Landfill Access Road: Road Cross Section (Sheet 1 of 2), Rev 1;
- Sheet ENG-35 Bin Exchange Area and Landfill Access Road: Road Cross Section (Sheet 2 of 2), Rev 1;
- Sheet ENG-36 Bin Exchange Area and Landfill Access Road: Access Road Bridge, Rev 2
- Sheet ENG-40 Stormwater Phase 1 & Phase 2 Plan, Rev 3;
- Sheet ENG-42 Stormwater Drainage: Full Development, Rev 2;
- Sheet ENG-43 Stormwater: Proposed Wetland Schematic, Rev 1;
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- Sheet ENG-45 Landfill Access Road: Typical Access Road Cross Section, Rev 2;
- Sheet ENG-46 Dams Concept Design – General Arrangement, Rev 1
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- Sheet ENG-48 Landfill – Existing Ground Contours: Stormwater Pipe Location, Rev 3;
- Sheet ENG-49 Stormwater: Longitudinal Section, Rev 2;
- Sheet ENG-60 Landfill: Indicative LFG Well Layout Plan, Rev 3;
- Ecology Figure 1: Proposed Revegetation Plan, Rev 1;
- Figure – SW1 Landfill: Schematic of Stormwater Control at Landfill, Rev 2;
- Figure 8: Site Wide Ecological and Landscape Plan, Revision: ~~C~~D – Drawing No.A18038B_15 dated ~~15 December 2020~~10 February 2022; and
- Figure 9: Landfill Area Ecological and Landscape Plan, Revision: ~~C~~D – Drawing No.A18038B_12 dated ~~15 December 2020~~10 February 2022.

2 In the event of any conflict between; (a) those plans and reports and these conditions, these conditions will take precedence; or (b) earlier and later plans or reports, the later plans or reports will take precedence.

Duration

3 Consents shall expire 35 years after the Initial Construction Commencement Date, unless it has lapsed, been surrendered or been cancelled at an earlier date pursuant to the RMA. This expiry does not apply to the land-use consents for landfill operations, which shall continue until it is surrendered.

Lapse

3A This consent lapses five years after the date it is granted unless:

a The consent is given effect to; or

b The Council extends the period after an application under section 125.

Bond

4 Prior to the placement of refuse the Consent Holder shall provide and maintain in favour of Council, and, in the circumstances described in Condition 16A below, in favour of Manuhiri Kaitiaki Charitable Trust and Te Rūnanga o Ngāti Whātua a financial assurance (bond) which, in the event of default by the Consent Holder, would:

a Secure compliance with all the conditions of these consents and enable any adverse effects on the environment resulting from the Consent Holder's activities, and not authorised by a resource consent or rule in the Auckland Unitary Plan to be avoided, remedied or mitigated. This will include a provision for plausible risks or events that could potentially arise and require remedial works to prevent adverse environmental effects (Compliance) including a provision for any on-Site and off-Site ecological enhancement or

restoration to the extent that it is required in the response to the works that have occurred as part of giving effect to the consent. This is in addition to the separate bond for off-Site stream works set out at Condition 123A;

b Secure the completion of closure and rehabilitation in accordance with the approved Aftercare section of the Landfill Management Plan, including reasonable provision for early closure events and associated costs in the event of abandonment of the Site (Closure); and

c Ensure the performance of any monitoring obligations of the Consent Holder under this consent post closure, as well as any Site aftercare obligations such as care of the landfill cap and pollution prevention infrastructure (Aftercare).

5 The amount (quantum) of the bond shall be adjusted over time as determined by any review conducted in accordance with Condition 14, provided that at any given time the amount shall be sufficient to cover the estimated cost at that time (including any contingency) of the bond components outlined in Condition 6.

6 The quantum for the components in Condition 4 shall be determined as follows:

a Part 1 – Compliance

The Part 1 component of the bond shall be derived based on reasonably foreseeable contingency scenarios defined in the Risk Management Assessment Report (Technical Report S of the application) and with input from TWEC in relation to cultural indicators. This component of the bond shall be required for as long as a discharge consent is required for the landfill activity.

The amount shall include provision for the cost of short-term monitoring, Site management and regulator inputs required by the resource consents.

Advice Note: The scope and quantum of the Part 1 – Compliance component is expected to reduce during the aftercare period given the greatly reduced scope of activities occurring on Site that would need to be monitored, and the resulting reduced risk.

b Part 2 – Closure

The Part 2 component of the bond shall be calculated by determining the likely maximum cost (including a 10% contingency) to close and secure the Site at any point within a 5 year period following the review date. The Part 2 bond quantum will be derived in current day dollars.

The amount shall include reasonable provision for all works necessary to close the Site, including but not limited to the following:

i Allowance for repair of damage associated with plausible early closure scenarios including, if applicable, repair of damage due to earthquake or extreme weather events;

ii Allowance for remediation of any adverse effect on the environment that may arise from the Site relating to plausible early closure scenarios;

iii Allowance for the full extent of the works needed to complete final capping, revegetation, leachate and gas collection infrastructure and removal of any redundant Site infrastructure;

iv Allowance for any other rehabilitation work required by the sections on closure and aftercare in the Landfill Management Plan; and

v Allowance for the cost of short-term monitoring, Site management and regulator inputs required by the resource consents during closure works.

Advice Note: Where a risk based approach is adopted to assess potential remedial or other costs associated with the bond quantum, then costs shall be assessed to the 90% confidence limit using appropriate engineering methodology.

c Part 3 – Aftercare

The Part 3 component of the bond shall be calculated as the Net Present Value of all aftercare costs and shall be based on the cost elements as set out in the Ministry for the Environment Landfill Full Cost Accounting Guide March 2004. Aftercare costs shall be

Commented [RMcV1]: This last sentence is to be removed if funding is made directly to KMR.

assessed as series of individual cost items, appropriately assessed over the duration of the aftercare period, with the amounts to be inclusive of contingency and a reasonable allowance for capital works or capital equipment replacement. This component will be developed using commercial financial parameters appropriate at the time of the initial assessment subject to amendment by scheduled review.

7 The amount of the bond required by Condition 4 shall be initially set on the basis of cost estimates, using the methodology in Condition 6, prepared by the Consent Holder and detailed in a bond report. The bond report shall be provided to the Manuhiri Kaitiaki Charitable Trust and Te Rūnanga o Ngāti Whātua for any comments, and the Consent Holder must consider any comments received within 20 working days ~~which must be provided within 20 working days~~. That report shall, within a further 20 working days, be submitted to Council for review and approval prior to the Landfill Commencement Date ~~commencement of placement of refuse at the site~~. (If any comments from the Manuhiri Kaitiaki Charitable Trust or Te Rūnanga o Ngāti Whātua received within that initial 20 working day period have not been adopted by the Consent Holder in the final report, those comments and the Consent Holder's response shall be described in the final draft report provided to the Council.) The amount of the bond shall cover costs associated with the three components defined in Condition 4.

Commented [RMcV2]: Amendment to clarify obligation of the Consent Holder

8 An experienced practitioner shall conduct the assessment required by Condition 6 to prepare the bond report required by Condition 7. The method of conducting the bond assessment shall be documented in the bond report. The bond report shall include all assumptions made in completing the quantitative risk assessment.

9 The Consent Holder's bond shall be in a form agreed between the Consent Holder and Council and shall, subject to these conditions, otherwise be on terms and conditions agreed between them.

10 The Consent Holder's bond shall name the Council as the party able to draw on the bond, and shall further name the Manuhiri Kaitiaki Charitable Trust and Te Rūnanga o Ngāti Whātua as parties able to draw on the bond in the circumstances described in Condition 16A. The bond shall be available to be drawn on regardless of whether the qualifying event for payment of the bond is the result of any deliberate or inadvertent act of the Consent Holder or its agents.

11 Should the Consent Holder and the Council be unable to reach mutual agreement on the form, terms and conditions, or amount of the bond, in either the establishment of the bond in accordance with Condition 4 or in subsequent review of the bond in accordance with Conditions 13 or 14 or in terminating the bond in accordance with Conditions 14 or 15, then the matter shall be referred to arbitration in accordance with the provisions of the Arbitration Act 1996. Arbitration shall be commenced on advice by either party that the amount of the bond is disputed, such notice to be given within 14 days of receipt by the Council of the amount of the bond established or proposed to be established by the Consent Holder. If the parties cannot agree upon an arbitrator within 7 days of receiving advice that the amount of the bond is in dispute, then an arbitrator shall be appointed by the President of Engineering New Zealand. Such arbitrator shall give an award in writing within 30 days after his/her appointment, unless both parties mutually agree that time shall be extended. The parties shall bear their own costs in connection with arbitration. In all other respects, the provisions of the Arbitration Act 1996 shall apply.

12 If the decision of the arbitrator is not made available by the 30th day after appointment of the arbitrator, then the amount of the bond shall be fixed by the Council, until such time as the arbitrator does make his/her decision. The Consent Holder shall establish or re-establish the bond in accordance with the arbitrator's decision within 60 days after the decision.

13 The quantum of all components of the Consent Holder's bond defined in Condition 4 shall be reviewed every five years from the Landfill Commencement Date ~~first placement of refuse at the landfill~~, by means of review of the bond report required by Condition 7. If, on review, the quantum of the bond to be provided by the Consent Holder varies by more than 10% of the sum secured by the current bond, then within 60 days of the Consent Holder being given written notice by Council of the new amount to be secured by the bond, the Consent Holder shall

execute and lodge with the Council a variation of the existing bond or a new bond for the amount fixed on review by the Council.

14 The Consent Holder may apply to have the bond amended, discharged or reviewed at any time, in which case the Council shall advise the Consent Holder of its decision on the application within 60 days of it receiving the application. An application by the Consent Holder to amend the amount of the bond shall be supported by a bond report carried out in accordance with conditions 4, 5, 6 and 7, giving consideration to the following:

a Environmental performance, including verification that groundwater and surface water are not polluted as a result of the landfill activities;

b Extent to which the off-Site planting programme has been completed;

c Degree of waste stabilisation, as reflected in the results of monitoring of settlement, landfill gas and leachate; and,

d Integrity of closure works, including the landfill cap and surface water controls.

15 The bond shall continue to be maintained in favour of the Council throughout the aftercare period specified in this consent and shall be adjusted at the periodic reviews required by Condition 13 to align with future conditions at the Site following closure. Unless otherwise defined in these conditions, the aftercare period commencement date shall be no earlier than the date of completion of capping of the final landfill cell, or the date of closure following abandonment prior to the final landfill cell being completed. If the landfill has been monitored and a bond report approved by the Council affirms that there are no existing or predicted adverse environmental effects from the landfill operation, then the Council may at its discretion discharge any remaining component(s) of the bond. The bond period may at Council's discretion be extended beyond 30 years following Site closure, if the bond report at that time indicates that the landfill continues to pose an ongoing unacceptable risk to the environment such that there is an ongoing requirement for aftercare.

16 All costs relating to the bond shall be paid by the Consent Holder, other than in relation to arbitration (see Condition 11 above) in respect of which both parties shall bear their own costs.

16A The bond shall provide for the Manuhiri Kaitiaki Charitable Trust or Te Rūnanga o Ngāti Whātua to be able to draw on the bond, for the purposes of, and in the manner described in, condition 4 above, in the following circumstances:

a If an event occurs that requires rectification under the terms of the bond instrument and conditions above: and

b If the Council fails to give notice requiring rectification, or if the Council does give notice and the Consent Holder fails to rectify that event; and

c The Council fails to draw on the bond to rectify the event.

For the avoidance of doubt:

i) the bond instrument will provide that, prior to drawing on the bond, the Manuhiri Kaitiaki Charitable Trust or Te Rūnanga o Ngāti Whātua will need to adopt the same process as the Council would have been required to adopt before the Council was able to draw on the bond, and any partial steps that the Council may have taken prior to the Manuhiri Kaitiaki Charitable Trust or Te Rūnanga o Ngāti Whātua commencing the process for drawing on the bond shall be disregarded; and

ii) the Council's obligation under this condition is limited to ensuring that, in the event of the pre-conditions in this condition 16A being satisfied, the bond instrument allows , Te Rūnanga o Ngāti Whātua or Manuhiri Kaitiaki Charitable Trust to draw on the bond in accordance with the terms of the bond instrument.

Waste Management & Tangata Whenua Executive Committee

17 The Consent Holder must invite the groups identified below to appoint a total of 5 representatives to establish and maintain a committee or board within its organisation to enhance tangata whenua involvement in all aspects of the management, monitoring, cultural assessment and governance of te taiao within the Te Awa o Hoteo catchment (**Tangata Whenua Executive Committee**, or **TWEC**) within 3 months of the consent commencement date (**TWEC Establishment Date**):

a Ngāti Manuhiri (2 members)

b Te Rūnanga o Ngāti Whātua, including Te Uri o Hau (2 members in total)

c Waste Management (1 member)

18 The purpose and function of that committee shall include the following matters:

a facilitating engagement and long-term working relationships between the Consent Holder and tangata whenua in respect of the activities authorised by the consent, and the management and monitoring of environmental effects, and the extent of those activities and effects against tangata whenua values and cultural indicators, including provision of reports to Council that might trigger a s 128, RMA, review;

b providing comments on draft management plans and draft annual reports;

c identifying possible sites for the purposes of condition 120;

d nominating the cultural representative on the Peer Review Panel;

e reviewing and reporting using the Waste Management Digital Dashboard (Dashboard) as the primary reporting tool as defined in condition 30C below;

f reporting to the Consent Holder and the Council on any cultural indicators that identify or suggest increasing or decreasing mauri;

g discuss waste reduction and minimisation initiatives for the Auckland Region;

h increase~~d~~ opportunities in advancing new technologies and practices in waste disposal and landfill best practice;

i the final end use, capping and landscaping~~, and on-going ownership of the ARL Site~~; and

j in context of the matters in (a)-(h) above, recognition of the rights and interests of tangata whenua in management of natural resources within the land (whenua) and waterways (awa) within Te Awa o Hoteo catchment.

19 [Deleted in 15 March 2023 version]

20 One appointed Ngāti Manuhiri Kaitiaki Charitable Trust representative shall be appointed Co-Chair of the committee, alongside the Managing Director of Waste Management who shall be the other Co-Chair. The Co-Chairs will agree on meeting protocols, including any appropriate quora, timeframes for receiving and reviewing management plans or annual reports, and including on when and how any tangata whenua-only meetings of the TWEC will occur.

21 The Co-Chairs shall notify, and ensure the attendance of, the landfill manager at all TWEC meetings, unless otherwise advised by TWEC.

22 The TWEC shall operate for the life of the landfill's construction and operation and for ~~-~~the Aftercare period.

23 The TWEC shall be provided with TWEC access to the Dashboard referred to in condition 30C below, which the Consent Holder must keep up to date with the latest monitoring data in accordance with condition 30C below.

Commented [RMcV3]: Ngāti Whātua to confirm

Commented [RMcV4]: It is expected that the Landfill Manager will attend all TWEC meetings, but this clarification is in the event TWEC do not wish the Manger to attend the occasional meeting

24 The Consent Holder shall in consultation with the tangata whenua members of the TWEC prepare terms of reference for the TWEC to provide a mechanism for mana whenua to:

a maintain and enhance their relationship with the land (whenua), air (hau) and waterways (awa) within and adjacent to the Site;

b provide recommendations as to how, through the implementation of the obligations in the consent conditions, tangata whenua can exercise kaitiakitanga of affected whenua, hau and awa;

c be involved in the development, implementation and monitoring of cultural indicators as contemplated by the conditions 30C-30F;

d review and comment on the development of specified management plans and results of environmental monitoring as set out in condition 27;

e provide recommendations to, and request responses from, the Consent Holder in respect of the matters listed above or other matters that the TWEC may raise from time-to-time; and

f have in place measures that protect against the unintended use or misuse (includes secondary use) of their mātauranga.

25 The Consent Holder shall invite the TWEC to hold regular meetings at the frequency specified below, provided that the frequency and duration meetings may be reduced or increased where the majority of tangata whenua members of the TWEC agree:

a 5 years from the TWEC Commencement Date: two monthly.

b Between 5 years and 8 years (inclusive) from the TWEC Commencement Date: quarterly.

c After 8 years from the TWEC Commencement Date: annually.

26 The Consent Holder's obligations in respect of the TWEC shall be to:

a Provide a venue for the TWEC meetings at the Consent Holder's cost;

b Resource a Secretariat for the Committee;

c Provide remuneration for all appointed representatives and Co-Chairs (such remuneration to be agreed to between the Consent Holder and the tangata whenua Co-Chair);

d Resource any other needs or costs associated with the reasonable functioning of the TWEC, as agreed between the Co-Chairs;

e Consider and, if requested by tangata whenua members of the TWEC, provide a written or other agreed appropriate response to all recommendations made by the TWEC, to the extent detailed in these conditions or otherwise agreed by the TWEC;

f To make available any staff members or independent experts engaged by the Consent Holder to appear before the TWEC, with the costs of the experts' attendances and any necessary preparation to be met by the Consent Holder;

g Subject to any operational or health and safety constraints, provide ongoing opportunities for tangata whenua to walk the Site before works commence to identify, acknowledge and take care of tupuna, and for visits to the Site over the life of the operations;

h Consider and, if requested, respond to the outcomes of any cultural monitoring undertaken by tangata whenua, referred to in conditions 30C – 30F of the consent; and

i Record the main points arising from each meeting of the TWEC and provide a copy of that record to all tangata whenua members of the TWEC within 10 working days following each meeting.

26A In addition to any other notification obligations specified in this consent, the Consent Holder shall comply with the following notification obligations in the event that any monitoring detects that any water may be contaminated by leachate:

a If a perimeter drain detects leachate-contaminated stormwater the Consent Holder will, in addition to the obligations in condition 314, immediately notify TWEC and will note that potential exceedance on the Digital Dashboard.

b If the inlet to Pond 3 (the first pond immediately downstream of the Landfill) shows that electrical conductivity has exceeded the approved trigger level due to leachate contamination the Consent Holder will, in addition to the obligations in condition 317, immediately notify TWEC and will note that potential exceedance on the Digital Dashboard.

c If the inlet to Pond 1 (the last pond prior to water discharging into the Eastern stream) shows that electrical conductivity has exceeded the approved trigger level due to leachate contamination the Consent Holder will, in addition to the obligations in condition 319, immediately notify TWEC and will note that potential exceedance on the Digital Dashboard.

d If the Consent Holder is required to take any actions under condition 321, the Consent Holder will, in addition to the obligations in condition 321, immediately notify TWEC and will note that potential exceedance on the Digital Dashboard.

e If the continuous monitoring on the subsoil drains at location E3 beneath the landfill detect that electrical conductivity has exceeded an approved trigger level due to leachate contamination then, in addition to ensuring that the drains have automatically closed as required by condition 324, the Consent Holder will, as well as meeting the obligations in conditions 324-326, immediately notify TWEC and will note that potential exceedance on the Digital Dashboard.

26B If any leachate contamination is detected in the stream below Pond 1, the Consent Holder will, within 24 hours, cease receiving non-odorous waste while an urgent investigation is undertaken to identify the source of the contamination and prevent any further discharge of leachate off-Site.

27 The Consent Holder shall provide opportunities to the TWEC to review, provide comments to, and request responses from, the Consent Holder on the following draft management plans:
[Drafting note: final list of management plans below to be reviewed and updated following ~~further evidence from or~~ any further consultation with tangata whenua]

a Streamworks Methodology Management Plan;

b Construction Erosion and Sediment Control Plan;

c Site Specific Erosion and Sediment Control Plan;

d Erosion and Sediment Control Adaptive Management Plan;

e Ecological Mitigation Plan;

f Landscape and Visual Effects Management Plan;

g Ecological Residual Effects Management Plan;

h Stream Offset Works Plan;

i Streamworks Methodology Management Plan – Seasonal Construction;

j Operational Erosion and Sediment Control Plan;

k Stormwater and Industrial and Trade Activities Management Plan

l Stormwater System Operation and Maintenance Plan;

m Stormwater Monitoring and Contingency Plan;

n Groundwater Monitoring and Contingency Plan;

o Pest Control Plan – Landfill Operations;

p Leachate Monitoring and Contingency Plan; and

q Post Closure Management Plan.

28 In relation to any management plan referenced immediately above:

a The Consent Holder shall provide a working draft of the management plan to the TWEC at least 3 months before the final plan will be submitted to Council for certification in

accordance with the specified timeframes set out in Table 5, with a request for any comments to be provided to the Consent Holder within a period of 2 months (i.e. all comments are to be provided to the Consent Holder no later than 1 month before the plan is due to the submitted to Council).

b The Consent Holder shall consider all comments received from the TWEC and, if requested to do so, will meet with the TWEC to discuss their comments. The Consent Holder will update the draft management plans, taking into account the comments from the TWEC. TWEC shall be asked to ratify the resulting management plan prior to submission to Council.

c In the event that any draft management plan is not ratified by the TWEC, the Consent Holder shall, at the request of the TWEC, meet with the TWEC to discuss any matters of disagreement, in an attempt to resolve them, prior to finalising the management plan and submitting it to the Council for certification.

d If any comments by the TWEC referred to in 28(a) above are not incorporated into the management plan, and/or ratification cannot be agreed, the Consent Holder will provide the management plan to Council (copied to the TWEC) that attaches the comments by the TWEC and explains why any change not incorporated into the draft submitted to Council was not agreed by the Consent Holder.

29 The Co-Chairs will agree a process and timeframe for reviewing the annual reports prior to submission to the Council and an expedited process for reviewing management plans that need to be resubmitted (ie if Council refuse to certify any submitted management plan). The Consent Holder shall consider all comments that are received and shall provide a response to the TWEC as to how these comments have been incorporated within the final report submitted to Council. If any comments are not incorporated, the Consent Holder will provide a document to Council (copied to the TWEC) that attaches the comments by the TWEC and explains why any proposed comments/requested changes were not incorporated into the final monitoring report submitted to the Council.

29A The Co-Chairs shall establish a process for resolving any disputes that cannot be resolved by direct negotiation.

Consultation obligation with TWEC for replacement resource consents

29B In addition to the Consent Holder's obligations to TWEC described in condition 26, if the Consent Holder intends to apply for replacement resource consents in order to continue landfilling beyond ~~[insert~~the term of consent~~s]~~, the Consent Holder shall, at least 5 years prior to the expiry of this consent, commence consultation with TWEC about any such proposed replacement consents. Without limiting the material to be provided as part of that consultation, the Consent Holder shall, as a minimum, provide information which clearly describes:

a the extent of airspace remaining within the landfill;

b the likely time period that might be required to fill that airspace;

c the additional term of consent proposed; and

d any other proposed amendments to the consent conditions that is proposed to be sought as part of any replacement application.

29C The Consent Holder shall not, as part of any replacement resource consent application, seek to increase the volume of airspace of the landfill beyond 23.8 Mm^3. This condition 29C is offered on an *Augier* basis.

29D The Consent Holder shall not, without the prior written agreement of TWEC, make any resource consent application for further landfilling on the Waste Management landholdings beyond that which is authorised under these consents as granted on [insert date of consent]. This condition 29D is offered on an *Augier* basis.

29E The Consent Holder will retain ownership of the entire Waste Management landholdings for the duration of this consent, except that the Consent Holder may dispose of any part of its landholdings to Manuhiri Kaitiaki Charitable Trust or to a third party with the approval of TWEC.

29F The Consent Holder will hold two hui per annum with TWEC at the Site, unless the TWEC decide otherwise and one open (public) community hui per annum.

Commented [RMcV5]: This existing condition has been moved up from condition 30BE to sit with other TWEC conditions

Waste Management Relationship with Ngāti Manuhiri

30 The Consent Holder shall use its best endeavours to ensure that, as early as possible but no less than 6 months prior to the Initial Construction Commencement Date, a Relationship Accord has been agreed between the Consent Holder and the Manuhiri Kaitiaki Charitable Trust (Relationship Accord). The purpose of the Relationship Accord is to set out a framework for how the parties will work together throughout the term of the consent and through the TWEC as Co-Chairs referred to in Part A of these conditions, including, but not limited to:

a the preparation of, review of, and amendment to, management plans (includes monitoring methodology), and the development of (and review of) any Cultural Indicators as described in conditions 30C-30F below;

b how the Consent Holder will respond if there is a breach of any Cultural Indicators as those Indicators are described in condition 30C-30F below;

c the application and practice of tikanga onSite;

d having in place measures that protect against the unintended or misuse (includes secondary use) of their mātauranga;

e specifying a process for considering and resolving areas of concern to Manuhiri Kaitiaki Charitable Trust that might arise throughout the term of the consent;

f recovery of the costs of negotiating and preparing the Relationship Accord; and

g a process for resolving any disputes that might arise between the parties to the Relationship Accord.

30A No later than 3 months prior to the Initial Construction Commencement Date, the Consent Holder shall either:

a Provide a copy of the signed Relationship Accord to Auckland Council, subject to any matters that the parties agree is to remain confidential as between themselves;

b Or, if agreement has not yet been reached, an explanation of why agreement has not been reached, what steps are being taken to resolve the areas of disagreement, and a likely timeframe within which agreement is expected

30B The Consent Holder shall invite the Manuhiri Kaitiaki Charitable Trust to nominate an appropriate person or person/s to prepare a Cultural Indicators monitoring programme. Within the measures identified by Manuhiri Kaitiaki Charitable Trust, the objective of the Cultural Indicators monitoring programme is to specify indicators to assist the Consent Holder and the Council to understand those cultural effects, including how any such effects may be minimised and / or may change over time by being visualised alongside the monitoring data in the Dashboard described in condition 30C, and any information recorded by the Consent Holder, as part of the baseline reporting and operation of the Landfill.

30BA To enhance Ngāti Manuhiri connections with the Site, the Consent Holder shall, following completion of landfilling operations at the Site, offer to transfer freehold titles of the Springhill land as described in [titles to be provided in Schedule] and following the aftercare period, offer to transfer freehold titles of the Matariki land as described in [titles to be provided in Schedule].

The transfers under this condition shall be:

a. for nil consideration by Ngāti Manuhiri and all costs of the transfers shall be met by the Consent Holder; and

b. be on standard REINZ/ADLS terms and conditions amended as necessary and subject to such rights and interests in favour of the Consent Holder that the Consent Holder considers necessary to support ongoing operations, aftercare and rehabilitation activities at the landfill.

30BB The Consent Holder will make a payment or payments of up to $2 million (excl gst) to Ngāti Manuhiri in relation to the actual and reasonable construction costs of up to six dwellings on the Springhill Property for Ngāti Manuhiri whanau. This payment or payments will be made

following the provision of relevant invoices by Ngāti Manuhiri to the Consent Holder on a date to be agreed between the parties but no earlier than 30 days after the Initial Construction Commencement Date as defined in the Consent Conditions. Ngāti Manuhiri will be responsible for the construction and consenting of the dwellings. The Consent Holder will grant all the necessary and appropriate property rights for those dwellings until the Springhill Property is transferred to Ngāti Manuhiri in accordance with subclause Condition 30BA ~~(i)(ii)~~.

30BC The Consent Holder will establish a fund to provide for the long-term maintenance of the pest exclusion fence, with annual contributions of $10,000 (excluding gst) (inflation adjusted) towards that fund for the operating life of the landfill (ie during the period of waste acceptance).

30BD The Consent Holder will lease to Ngāti Manuhiri at a rent of $1 per annum the existing residential dwellings on the Site from the Landfill Commencement Date, until the property is gifted to Ngāti Manuhiri as referred to in condition 30BB.

~~30BE The Consent Holder will hold two hui per annum with TWEC in the Landfill, unless the TWEC decide otherwise and one open (public) community hui per annum.~~

Commented [RMcV6]: This condition has been moved above to sit with the other TWEC conditions.

Cultural Monitoring Framework and Digital Dashboard

30C For the purposes of these conditions, the Waste Management Digital Dashboard (**Dashboard**) is a digital information sharing platform that:

a facilitates the visualisation of monitoring data and other information recorded by the Consent Holder, as part of the baseline reporting, and monitoring during construction and operation of the Landfill, as authorised by these consents;

b demonstrates the performance of the Landfill:

i. in relation to the environmental parameters (includes bottom lines) imposed under these consents, and

ii. against any cultural indicators developed and implemented by tangata whenua and as further described in conditions 30D-30F below;

c can be used as a tool for tangata whenua to support the exercise of its kaitiakitanga; with authorised independent access;

d can be used as a tool for tangata whenua to report to Council on any cultural indicators that identify or suggest decreasing mauri;

e can be used to inform recommended changes to any management plans, including those specified in condition 27, as part of any annual update, or as part of any more comprehensive review;

f subject to restrictions requested by tangata whenua in regards to the Cultural Indicators, is otherwise publicly visible thereby providing real time information on the performance of the landfill when measured against the conditions of consent;

g The Consent Holder shall, as early as possible but no less than 24 months prior to the Initial Construction Commencement Date, invite tangata whenua, with the support of TWEC where possible, to develop cultural indicators, in a form that can be used to identify trends in those cultural indicators over time, including those that might indicate improving or decreasing mauri, that can be incorporated into the Dashboard described in Condition 30C, provided that:

i. if the Cultural Indicators are not developed by agreed tangata whenua representatives prior to Initial Construction Commencement Date, the Dashboard shall be constructed in a manner that allows the Cultural Indicators to be added at a later date, and until that time the Dashboard shall be operated and display other key information as described ~~in condition 30C~~ above; and

ii. tangata whenua may review and amend the Cultural Indicators from time to time and the Consent Holder shall update the Dashboard to incorporate any such amendments as soon as practicable following any new or amended cultural indicators.

30CA The Consent Holder shall ensure all monitoring data as required by these consents and agreed by TWEC is visualised on the Waste Management Dashboard.

30D The Consent Holder shall be responsible for all reasonable costs associated with the implementation of conditions 30C-30GH as described further in conditions 30(f) and 30H.

30E The methodology of the cultural monitoring and assessment shall be determined following consultation with tangata whenua. Any assessments shall be carried out by tangata whenua, or by suitably qualified individuals appointed by the Consent Holder on the recommendation of the TWEC.

30F The Cultural Indicators referred to in conditions 30C-30GH may include, but are not limited to, assessing changes in the characteristics of vegetation, the health of taonga species and culturally significant flora and/or fauna, and the health of Hōteo Awa, and waterways and groundwater in the vicinity of the landfill, and the Kaipara catchment.

30G In addition to the reporting from the Dashboard, the TWEC shall commission an appropriate person or person/s to provide a written report on the Cultural Indicators monitoring on an annual basis during Initial Site Construction Works and operation of the landfill. The report is intended to identify for TWEC, the Consent Holder and the Council, any trends in the cultural indicators, particularly those which are improving and declining. The written report will be submitted to Council on an annual basis.

30H The Consent Holder shall cover the reasonable actual costs of developing, implementing and reporting on cultural indicators, as agreed in advance by the Consent Holder and TWEC.

Community Liaison Group

31 The Consent Holder shall, in consultation with tangata whenua (or, if already established, the TWEC), local community groups and representatives of local residents from Dome Valley, Wayby Valley and Wellsford establish and maintain a Community Liaison Group (CLG). The CLG shall comprise:

a An independent Chair, the identity of and terms of engagement to be agreed by the Consent Holder and Council;

b A representative from Wayby Valley Road area residents;

c A representative from the Spindler Road area residents;

d A representative from the Dome Valley area residents;

e A representative from the Wellsford area residents;

f A local board member from Wellsford or Council nominee;

g A representative from the TWEC; and

h Two representatives from the Consent Holder.

The role of this group will be to bring feedback from the community to the Consent Holder, disseminate information about the landfill to the local community, and to hear concerns of local residents relating to the landfill and receive, discuss and consider material.

32 The Consent Holder shall take all practicable steps to ensure that the CLG comprises up to 7 representatives (including the chair but not including the Consent Holder). The Consent Holder shall host meetings of the CLG on a quarterly basis (or less frequently as determined by the CLG). Meeting minutes shall be taken by the Consent Holder and distributed to the members of the CLG. The Consent Holder shall cover the costs of and/or provide the meeting venue, secretarial services and independent chair.

Advice Note: Meetings of the CLG will be open to the public to attend but without member rights and voting rights and will be subject to the meeting protocols set by the chairperson.

33 The Consent Holder shall present information at meetings of the CLG including:

a any proposed changes to management plans;

b any new resource consent applications, including variations to existing consents, prior to lodgement;

c operational aspects of the landfill;

d the results of monitoring required as a condition of consent; and

e any complaints received and actions taken in response to those complaints,

and will provide the opportunity for the CLG to give feedback on these matters.

Community Trust

34 The Consent Holder will establish, and maintain for the duration of the land-use consent, a charitable trust for the purposes beneficial to those people whose principal place of residence is within the area identified in the Landfill Management Plan. The Consent Holder shall provide an annual sum to the trust for the duration of the consent. The allocation of funds will be informed by advice from the Community Trust on suitable projects.

Advice Note: Further details as to the how the trust is to be established and the proposed key terms of the Trust Deed are described in the Landfill Management Plan. Once established, the operation of the Trust will be governed by the Trust Deed.

34A Funding of the Community Trust described in condition 34 and TWEC described in condition 17 shall be provided by the Consent Holder in accordance with the following formula (all sums are inflation adjusted during waste placement and are GST inclusive):

a If the Landfill~~ARL~~ accepts less than 500,000 tonnes of waste in a calendar year, the Consent Holder shall provide funds to TWEC of $25,000 and the Community Trust of $10,000 for that previous year.

b If the Landfill~~ARL~~ accepts more than 500,000 tonnes per annum in a calendar year, the Consent Holder shall provide funds to TWEC of $50,000 and the Community Trust of $25,000 for that previous year.

34B The payments described above shall be made in 1 lump sum by 31 March each year for the previous year ending 31 December, unless otherwise agreed between the Consent Holder and the Community Trust and TWEC respectively, and the funds shall be used for the purposes described in condition 34. ~~*[Drafting note: To amend condition 34 to identify that the Trust's input would be required to specify scope of potential works funded with this amount]*~~

Complaints Management

35 Upon receiving a complaint, the Consent Holder shall:

a Make efforts to identify the nature of the complaint, the location, date and time of the alleged incident event(s);

b Acknowledge receipt of the complaint to the complainant within 1 working day of receipt;

c Notify Council of the receipt of the complaint (providing details of the nature of the complaint, the date and time the complaint was received, and the complainant's details and location if available) within 1 working day of receipt;

d Respond to the complaint in accordance with any relevant Management Plan or condition; and

e Advise the complainant and Council as soon as the investigation is complete and no later than 10 working days following (if their contact details are provided) of what steps have been taken to investigate the complaint and remedial actions.

36 A record of all complaints received shall be kept by the Consent Holder. This record shall include:

a The name and address of the person(s) who raised the complaints (unless they elect not to provide this) and time and nature of the complaint;

b Weather conditions at the time of the concern or complaint, including wind direction and cloud cover if the complaint relates to noise, dust or air quality;

c Activities occurring on Site at the time and in the vicinity of the source of the complaint; and

Commented [RMcV7]: Amendment to address drafting note at Condition 34B

Commented [RMcV8]: Amendments made to condition 34 above to address this drafting note

d Remedial actions taken (if any) and any resulting improvements in environmental performance that have occurred or are expected to occur ~~and the outcomes of these~~.

37 The record specified in Condition 36 shall be maintained on Site by the Consent Holder, be available for inspection and a summary is to be provided to Council, the CLG and TWEC annually and on request.

Access to Site

38 Access to the relevant parts of the property shall be maintained and made available on request at all reasonable times to enable the servants or agents of the Council and TWEC to carry out inspections, surveys, investigations, tests, measurements or take samples whilst adhering to the Consent Holder's health and safety policy.

Accidental Discovery Protocol

39 Should earthworks on the Site result in the identification of any previously unknown archaeological site, including any archaeological artefact, koiwi or taonga, the Land Disturbance – Regional Accidental Discovery rule [E12.6.1] set out in the Auckland Unitary Plan Operative in Part (August 2020) (AUP ADR) shall be applied. In addition, unless otherwise agreed with the TWEC:

a the Site supervisor will ensure that no eating, drinking, and smoking occurs in the immediate vicinity;

b the Consent Holder shall notify:

i the TWEC; and

ii an archaeologist appointed by the Consent Holder.

40 The Consent Holder shall ensure staff are available on Site to guide police (as appropriate) and TWEC nominee/s to the Site in the event of discoveries specified in Condition 39.

41 In the case of discovery of koiwi, access to that area shall be restricted to exclude other parties until Police are satisfied the remains are not of forensic relevance.

Advice Note 1: this restriction does not include any suitably qualified experts who may be required to determine the nature or heritage value of the find.

Advice Note 2: If the parties involved are satisfied that the koiwi or taonga are of Māori origin, the TWEC nominee/s will decide how they are to be dealt with and will communicate this to the New Zealand Police and other parties as appropriate. The Consent Holder shall meet any appropriate costs with this process.

42 The Consent Holder shall ensure that TWEC have the opportunity to undertake karakia and other cultural ceremonies and activities at the Site of the discovery as specified in Condition 39, as may be considered appropriate in accordance with tikanga Māori (Māori customs and protocols).

43 Any of these supplemental conditions in addition to the protocols of the AUP ADR must align with, and shall not override or replace any of, the baseline protocols contained within the AUP ADR

Heritage - Cottage

44 The Consent Holder shall retain the cottage on Springhill Farm at 1232B State Highway 1, Wayby Valley and ensure it does not fall into disrepair throughout the operational life of the landfill.

Heritage - Information Recovery

45 A copy of any documentation resulting from archaeological or historic heritage investigation as part of the proposed works should be forwarded to Auckland Council's Heritage Unit for inclusion within the Auckland Council Cultural Heritage Inventory. The Consent Holder's project historic heritage expert shall prepare documentation suitable for inclusion in the Cultural Heritage Inventory and forward the information to the Team Leader (for the Manager: Heritage Unit, heritageconsents@aucklandcouncil.govt.nz) within one calendar month of the completion of work on the Site.

46 In the event that any unrecorded historic heritage sites are exposed as a result of authorised work on the Site, then these historic heritage sites shall be recorded by the Consent Holder for inclusion within the Auckland Council Cultural Heritage Inventory. The Consent Holder's project historic heritage expert shall prepare documentation suitable for inclusion in the Cultural Heritage Inventory and forward the information to the Team Leader (for the Manager: Heritage Unit, heritageconsents@aucklandcouncil.govt.nz) within one calendar month of the completion of work on the Site.

Public walkways and cycle tracks

47 The Consent Holder shall, subject to reaching agreement on reasonable recommendations from the Department of Conservation and Walking Access Commission, and obtaining the necessary landowner approval and any other statutory approvals:

a Establish and maintain public access along Wilson Road;

b Provide a public ridgeline track in recognition of traditional tangata whenua use of the Site and in recognition of tupuna, with appropriate Pou and/or information boards subject to approval from TWEC;

c Consider opportunities to enhance the recreational value of Sunnybrook Scenic Reserve;

d Consider opportunities to create mountain bike tracks; and

e Establish and form a walking and cycling access to and along the Waiwhiu Stream, including amenity areas that may be appropriate at any swimming or picnicking sites along the stream subject to any restriction that may be imposed by any local territorial authority or government.

48 All access tracks on the Site established in accordance with Condition 47 shall be registered by way of an esplanade strip or walkway easement or similar instrument securing public access within 12 months of being completed. Such access arrangements shall be subject to any requirements to protect native flora, fauna or taonga.

Gas and Petroleum pipelines

49 Any sub-surface activity within 20 metres of the centre-line of Designation 9101 (Taupaki to Topuni Gas Pipeline) and Designation 6500 (Petroleum Pipeline) shall require the written authorisation from the infrastructure asset owner prior to the works commencing.

50 In consultation with Channel Terminal Services Ltd and First Gas Ltd, the Consent Holder shall develop procedures, methods and measures to be implemented during any works or construction activities within 20 metres of the centre-line of Designation 9101 (Taupaki to Topuni Gas Pipeline) and Designation 6500 (Petroleum Pipeline) to:

a Manage any works or construction activities which have the potential to affect the continued safe and efficient operation, including inspection and maintenance, of the designated infrastructure assets specified above; and

b Meet applicable standards and Codes of Practice applying to the design and construction of works that interface with the designated infrastructure assets specified above.

51 The high-pressure gas and petroleum pipelines shall be accurately shown and labelled on all design, tender, and construction drawings, and landfill operation and management plans.

Baseline Monitoring

52 Baseline sampling and analysis of surface water, groundwater and groundwater levels from each of the monitoring locations listed in Table 1 and Table 2, or other locations proposed by the Consent Holder or Council (any such changes to be approved by the Council), shall be undertaken three monthly (quarterly) for groundwater and monthly for surface water, for a continuous period of at least four years prior to the Initial Construction Commencement Date for surface water (or over a period where 48 monthly baseline samples and analysis for surface water are undertaken) and four years prior to Landfill Commencement Date for groundwater (or over a period where 12 three monthly baseline samples and analysis for groundwater are

undertaken), with the exception of any new parameters and locations added subsequent to lodgement of the application, in which case monitoring of those parameters shall commence within three months of consent being granted. Those parameters and locations which have been added subsequent to lodgement of the application are indicated in Tables 1, 2 and 4 below with underlining.

The Consent Holder shall ensure four years of baseline turbidity monitoring of surface water at Site SW3/3A, except if forest harvest commences in the Landfill Valley within those four years then baseline turbidity monitoring of surface water at Site SW4/4A may replace the part of the four year period after commencement of forest harvest, subject to an overlap period of at least one year of baseline turbidity monitoring of both SW3/3A and SW4/4A prior to forest harvest.

Advice Note: Baseline monitoring undertaken prior to consent being granted can form part of the continuous period of baseline monitoring.

Commented [RMcV9]: Amendments to account for gaps in baseline monitoring that could not be undertaken due to COVID-19 lockdowns.

Table 1: Baseline groundwater monitoring locations

Reference	Groundwater level	Groundwater chemistry	Purpose
BH1	*	* (Note 1)	Pre-construction ambient background groundwater level and quality data from the upper aquifer down-gradient of the landfill.
BH2	*	*	Pre-construction ambient background groundwater level and quality data from the upper aquifer down-gradient of the landfill.
BH3	*	*	Pre-construction ambient background groundwater level and quality data from the upper aquifer up-gradient of the landfill.
BH4	*		Pre-construction ambient background groundwater level data from the upper aquifer on the ridgeline between the Landfill Valley and the Northern Valley.
BH5	*	*	Pre-construction ambient background groundwater level and quality data from the upper aquifer on the ridgeline between the Landfill Valley and the Northern Valley.

BH6	*	*	Pre-construction ambient background groundwater level and quality data from the upper aquifer on the ridgeline between the Landfill Valley and the Northern Valley.
BH7	*	*	Pre-construction ambient background groundwater level and quality data from the upper aquifer at a down-gradient location.
BH8	*		Pre-construction ambient background groundwater level data from the upper aquifer north east of the landfill.
BH9	*	* (Note 1)	Pre-construction ambient background groundwater level and quality data from the upper aquifer north of the landfill.
BH10	*	* (Note 1)	Pre-construction ambient background groundwater level and quality data from the upper aquifer north of the landfill.
BH11 (unless and until removed for road construction)	*		Pre-construction ambient background groundwater level data from the upper aquifer at a down-gradient location between the landfill and the Waitaraire Stream receptor zone.
BH12 (unless and until removed for road construction)	*		Pre-construction ambient background groundwater level data from the upper aquifer at a down-gradient location between the landfill and the Waitaraire Stream receptor zone.

BH13	*	*	Pre-construction ambient background groundwater level and quality data from the regional aquifer at a down-gradient location between the landfill and the Waitaraire Stream receptor zone.
BH14	*	*	Pre-construction ambient background groundwater level and quality data from the regional aquifer at a down-gradient location to the west of the Waitaraire Stream.
BH15	*		Pre-construction ambient background groundwater level data to assess the vertical downward gradient beneath the proposed landfill footprint.
TB01 (potable)		*	Pre-construction ambient background groundwater quality data from the regional aquifer at a down-gradient location between the landfill and the Waitaraire Stream and Hōteo River receptor zones.
BH20	*		Pre-construction ambient background groundwater level and quality data to determine baseline conditions for measuring potential effects on baseflow to the Upper Waitaraire Tributary Catchment. Target screen depth of around 120m RL.

Advice Note 1: Baseline measurements only. Not required to be ongoing during landfill operations. Remaining locations will be retained and used as monitoring locations throughout the landfill operation.

Table 2: Surface water monitoring locations

Reference	Surface water chemistry	Continuous temperature, turbidity and conductivity
SW1 / SW1A	*	*
SW2 / SW2A	*	*
SW3 / SW3A	*	*
SW4 / SW4A	*	*
Upstream Waitaraire		*
Downstream Waitaraire		*
Hoteo River at Spindler Rd Bridge		*
Hoteo River at Wilson Rd Bridge		*

Advice Note 2: The location of the above monitoring sites are shown on Proposed in-stream surface water quality monitoring locations (indicative), revision 0, Figure 1, March 2023.

52A Baseline sampling and analysis of macroinvertebrates, periphyton, macrophytes and deposited sediment within streams will be undertaken three monthly (quarterly), and sediment deposition in wetlands on no less than four occasions, for a period of no less than 12 months prior to the Initial Construction Commencement Date. This will be undertaken at the sites included in Table 3, or at an alternative and/or additional site where these best represent upstream and downstream conditions.

Table 3: Ecology baseline data

	Deposited sediment	Macroinvertebrates (3 replicates)	Periphyton/ Macrophytes
Eastern Block			
Upstream (Ec4)	*	*	*
Downstream (Ec3)	*	*	*
Southern Block			
Upstream (Ec2)	*	*	*
Downstream (Ec1)	*	*	*

Raupo wetland condition (Ec1A)	*	N/A	N/A
Springhill Farm			
Downstream (Ec5)	N/A	*	*
Wayby Wetland South (Ec6a and EC6b)	*	N/A	N/A
Wayby Wetland North (Ec7a and Ec7b)	*	N/A	N/A

53 The baseline analysis of groundwater chemistry and surface water chemistry required by Condition 52 shall be for the following parameters:

Table 4: Parameters for groundwater and surface water chemistry baseline analysis

PARAMETER	**UNITS**
Temperature	°C
Sodium	g Na/m^3
pH	
Chloride	g Cl/m^3
Conductivity	mS/m
Potassium	g K/m^3
Total Ammoniacal Nitrogen	g N/m^3
Total Hardness	g $CaCO3/m^3$
Zinc (soluble)	g Zn/m^3
Manganese (soluble)	g Mn/m^3
COD	g O/m^3
Arsenic (soluble)	g As/m^3
Copper (soluble)	g Cu/m^3
Lead (soluble)	g Pb/m^3
Nitrate Nitrogen	g N/m^3
Sulphate	g $SO4/m^3$
Alkalinity	g $CaCO3/m^3$
Boron	g B/m^3
Nickel (soluble)	g Ni/m^3
Calcium	g Ca/m^3
Iron (soluble)	g Fe/m^3
Magnesium (soluble)	g Mg/m^3

Total Phosphorous	g P/m^3 (surface water only)
Dissolved oxygen	g $O2/m^3$ (surface water only)
Volatile Organic Compounds	g/m^3 (surface water only)
Semi Volatile Organic Compounds	g/m^3 (surface water only)

53A The results of baseline monitoring under Condition 52 will be used to develop indicative trigger levels for construction and / or operational monitoring (as detailed in relevant conditions of consent). All trigger levels are to be developed as triggers for investigation and management measures to be implemented, rather than a compliance limit.

53B Background sampling and analysis of endocrine disruptors and microplastics at SW3, Hoteo River at Spindler Road Bridge and Hoteo River at Wilson Road Bridge will be undertaken three monthly (quarterly) on no less than four occasions, for a period of no less than 12 months prior to the Initial Construction Commencement Date.

Commented [RMcV10]: New condition to clarify within this baseline monitoring section what the information will be used for

Commented [RMcV11]: New condition on monitoring of hormones and microplastics

Vegetation Covenants

54 The Consent Holder shall enter into covenants in favour of Council. The covenants shall:

a Protect existing indigenous/native forest, riparian margins and wetlands as shown on Areas to be Covenanted Plan, Figure 14A, rev 1 dated June 2022 from felling or other forms of removal in perpetuity;

b Protect any riparian, wetland and terrestrial planting undertaken on the Site as a requirement of the conditions of this consent from felling or other forms of removal in perpetuity;

c Be drafted and submitted to the council's nominated Solicitor for certification at the Consent Holder's cost;

d Be registered against the Computer Register(s) (records(s) of title) to the affected land by the Consent Holder at their cost; and

e Require the Consent Holder to:

i Be responsible for all legal fees, disbursements and other expenses incurred by the Council in connection with the covenant; and

ii Reimburse the Council for costs, fees, disbursements and other expenses incurred by the Council as a direct or indirect result of the council being a party to this covenant.

55 A copy of the updated Computer Register (record of title) showing that the covenant has been registered shall be provided to the Council within 6 years of commencement of consent, or within one year of completion of forestry activities in the areas where pine harvest is required to occur prior to planting of native vegetation.

Review of Human Health Risk Assessment

56 The Consent Holder shall review monitoring data and provide the Council an updated Human Health Risk Assessment (HHRA) report every 10 years after the Landfill Commencement Date. The HHRA shall take into account cumulative effects from new contaminant sources in the vicinity of the landfill facility.

Further commitments for the Northern Valley

56A Prior to the Initial Construction Commencement Date, the Consent Holder shall be able to provide confirmation via a legal instrument to the satisfaction of the Council, that the North Valley main stream will be planted with riparian planting 20m either side in accordance with the plan "*Northern Valley Additional Control*" dated 27 March 2024, Rev 1 and be legally protected. The riparian planting provided under this condition shall be planted as soon as practicable following any commercial forestry harvesting after the expiry of condition 56B.

Commented [RMcV12]: New conditions providing further commitments in the Northern Valley area including to ensure no commercial forestry harvesting in the area until 2032 and providing riparian planting

56B The Consent Holder shall ensure there is no commercial forestry harvesting activities in the "Northern Valley" area identified on map "*Northern Valley Additional Control*" dated 27 March 2024, Rev 1 prior to 1 January 2032. This condition 56B is offered on an *Augier* basis.

56C On completion of riparian planting under condition 56A the Consent Holder shall maintain a permanent stock-proof fence, or other protection methodology as agreed with Council around the riparian planting.

KMR Funding

56D Prior to the Landfill Commencement Date, the Consent Holder shall provide the Kaipara Moana Remediation Project with $[X] for the purposes of providing funding to contribute to riparian planting costs along headwater and tributary streams in the Hoteo River catchment.

Commented [RMcV13]: This condition would replace conditions 120 to 123A in the event funding is provided to KMR

Commented [RMcV14]: This figure is to be finalised – provisional costings by WM indicates that it will be between $11M and $14M, depending on assumptions used, eg the degree of fencing required

Review of conditions

57 The conditions of this Consent may be reviewed by the Council pursuant to Section 128 of the Resource Management Act 1991, at the Consent Holder's cost at any time by the giving of notice pursuant to Section 129 of the Act in order to:

a Deal with any significant adverse effect on the environment arising from the exercise of the Consent that was not foreseen at the time that the application was considered and/or has been identified in a report from the TWEC;

b Deal with any adverse effect on the environment which may arise or potentially arise from the exercise of this consent and which it is appropriate to deal with at a later stage, in particular adverse effects on stream flow and stream water quality;

c Consider the adequacy of conditions that prevent nuisance beyond the boundary of the Site, particularly if complaints have been received on a frequent basis and have been validated by an enforcement officer;

d Consider the adequacy of conditions in situations where monitoring results shown on the Waste Management Digital Dashboard as reported by the TWEC;

e Respond to any report on cultural indicators prepared by the TWEC under condition 30G, that identifies or suggests a declining trend in cultural indicators that might indicate a decreasing mauri; and

f If it is found that the information made available to the Council in the application contained inaccuracies which materially influenced the decision and the effects of the exercise of the consent are such that it is necessary to apply more appropriate conditions.

57A The conditions of this Consent may be reviewed by the Council pursuant to Section 128 of the Resource Management Act 1991, at the Consent Holder's cost in June 2024 and subsequently at not less than 5 yearly intervals thereafter by the giving of notice pursuant to Section 129 of the Act in order to:

a To vary the quantities, monitoring, operating and reporting requirements and performance standards in order to take account of information, including the results of previous monitoring and changed environmental knowledge, on: water availability, including alternative water sources; actual and potential water use; stream water flow and level regimes; stream water quality; efficiency of water use; Instream biota, including fish passage and the functioning of aquatic ecosystems; and the relationship of Māori with water.

b Consider the adequacy of conditions to respond to any environmental or meteorological changes which have occurred, whether due to climate change or otherwise, and which are beyond the range of weather events that were modelled at the time of the consent being granted;

c Consider developments in emission control technology and management practices that would enable practical reductions in discharges to air, and other technology used in practices at the Site which could reduce adverse effects; and

d To take into account any act of Parliament, regulation, national policy document or relevant planning document under the RMA or any replacement Act(s) that relates to limiting, recording or reducing emissions or adverse effects authorised by this Consent, including:

i To provide compliance with rules in any regional plan relating to use of water, water or air quality (refer section 128(1) (b) of the RMA) that have been made operative since the commencement of consent.

ii To provide compliance with any relevant national environmental standard that has been made since the commencement of consent.

Part C – Management Plans

Commented [RMcV15]: WM and Ngāti Manuhiri propose to agree relevant conditions specifying contents of management plans with experts and parties. Updated copies of management plans (which include various plans referenced in the proposed conditions) can then be submitted to the Court

Management and Monitoring Plan certification

58 The Consent Holder shall prepare the following management plans for certification by Council and in accordance with the specified timeframes as set out in Table 5. The Consent Holder shall prepare the management plans in accordance with the requirements of the relevant condition, in accordance with the process set out in conditions 27 – 29.

Table 5: Management Plan certification timeframes

a **Construction Management Plans**

Management Plan	Condition reference	Submission timeframe to Council for certification
Construction Environmental Management Plan	66	3 months prior to Initial Construction Commencement Date
Construction Traffic Management Plan	162	3 months prior to Initial Construction Commencement Date
Construction Noise and Vibration Management Plan	168	3 months prior to Initial Construction Commencement Date
Stream and Wetland Works Methodology Management Plan	69	3 months prior to any works within a wetland or stream
Construction Erosion and Sediment Control Plan	125	3 months prior to Initial Construction Commencement Date
Site Specific Erosion and Sediment Control Plan	126	1 month prior to Initial Construction Commencement Date
Erosion and Sediment Control Adaptive Management Plan	145	3 months prior to Initial Construction Commencement Date
Construction Chemical Treatment Management Plan	151	3 months prior to Initial Construction Commencement Date
Sediment Balance Monitoring Plan	156A	3 months prior to Initial Construction Commencement Date
Sediment Balance Plan	156B	Two months following completion of the final Sediment Monitoring Report
Dam Safety Management Plan	181	3 months prior to Landfill Commencement Date

b **Ecological Mitigation Plan**

Management Plan	Condition reference	Submission timeframe
Ecological Mitigation Plan (overarching plan, with below sub-plans)	76	3 months prior to Initial Construction Commencement Date
• Bat Management Plan	80	3 months prior to Initial Construction Commencement Date

• Lizard Management Plan	83	3 months prior to Initial Construction Commencement Date
• Avifauna Management Plan	82	3 months prior to Initial Construction Commencement Date
• Hochstetter's Frog Management Plan	84	3 months prior to Initial Construction Commencement Date
• Native Freshwater Fish and Fauna Management Plan	85	3 months prior to Initial Construction Commencement Date
• Invertebrates Management Plan	88	3 months prior to Initial Construction Commencement Date
• Vegetation Clearance Management Plan	89	3 months prior to Initial Construction Commencement Date
• Kauri Dieback Management Plan	90	3 months prior to Initial Construction Commencement Date

c **Ecological Residual Effects Management Plan**

Management Plan	**Condition reference**	**Submission timeframe**
Ecological Residual Effects Management Plan (overarching plan, with below sub-plans)	91	3 months prior to Initial Construction Commencement Date
• Habitat Enhancement and Restoration Plan	91	3 months prior to Initial Construction Commencement Date
• Ecological Pest Animal Management Plan	102	3 months prior to Initial Construction Commencement Date
• Biodiversity Outcome Monitoring and Adaptive Management Plan	111 – 112A	3 months prior to Initial Construction Commencement Date
• Pest Fence Construction and Maintenance Plan (appendix)	101B	3 months prior to Initial Construction Commencement Date
• Pest Management Operational Plan (including Biosecurity Plan)	101F	3 months prior to Initial Construction Commencement Date

• Wetland Restoration Adaptive Management Plan	118A	3 months prior to Initial Construction Commencement Date

d **Landscape and Visual Management Plan**

Management Plan	Condition reference	Submission timeframe
Landscape and Visual Management Plan	101A	3 months prior to Initial Construction Commencement Date

e **Stream Offset Works Plan**

Management Plan	Condition reference	Submission timeframe
Stream Offset Works Plan	120	6 months prior to Initial Construction Commencement Date and annually thereafter

f **Landfill Management Plan – Landfill Operations**

Management Plan	Condition reference	Submission timeframe
Landfill Management Plan (Overarching plan, with below sub-plans)	356	3 months prior to Landfill Commencement Date
• Streamworks Methodology Management Plan – Seasonal Construction	389	3 months prior to any works within that wetland or stream
• Bin Exchange Area Management Plan	361	3 months prior to Landfill Commencement Date
• Site Emergency Management Plan	362	3 months prior to Landfill Commencement Date
• Landfill Gas Management Plan	363	3 months prior to Landfill Commencement Date
• Operational Erosion and Sediment Control Plan	365	3 months prior to annual seasonal construction period
• Stockpile Chemical Treatment Management Plan	256	Prior to Initial Construction Commencement Date
• Stormwater and Industrial and Trade Activities Management Plan	368	3 months prior to Landfill Commencement Date
• Stormwater System Operation and Maintenance Plan	371	3 months prior to Landfill Commencement Date
• Stormwater Monitoring and Contingency Plan	375	3 months prior to Landfill Commencement Date

• Groundwater Monitoring and Contingency Plan	382	3 months prior to Landfill Commencement Date
• Pest Control Plan – Landfill Operations	384	3 months prior to the Landfill Commencement Date
• Leachate Monitoring and Contingency Plan	387	3 months prior to the Landfill Commencement Date

g **Aftercare and Post Closure Management Plan**

Management Plan	Condition reference	Submission timeframe
Post Closure Management Plan	396	12 months prior to reasonably projected Landfill Capping Completion Date.

Management and Monitoring Plan approvals

59 The Consent Holder shall submit the above plans for certification by Council in accordance with the above timeframes in Table 5. In certifying the above plans the Council will ensure they comply with the Management ~~p~~Plan objectives, content and limits set out in Conditions 66 to 396. Should Council decline to certify the plan or request the incorporation of changes to the original plan, the Consent Holder may then resubmit a revised plan.

Management and Monitoring Plan revisions

60 The Consent Holder may make amendments to the final monitoring and management plans that may change how any adverse effect is managed at any time before the relevant works are undertaken subject to the certification of Council prior to the change taking effect.

61 The amendment to the monitoring or management plan(s) shall be consistent with the objectives and performance requirements of the plan and any limits or requirements set within these consent conditions.

62 In the event of an amendment to a management or monitoring plan under Condition 60, the Consent Holder must submit, in writing, the amendment to Council for certification that the amendment meets the objectives and performance requirements of the plan, at least 20 working days before the commencement of the relevant works.

63 Should Council decline to certify the amendment or request the incorporation of changes to the amendment, the Consent Holder may then resubmit a revised material amendment to the plan.

64 The Certification process for a revised amendment shall follow the same process described above in Condition 60-63 above.

Implementation of and compliance with Management Plans

64A The Consent Holder shall not implement any management plans unless that plan has been certified by Council. When undertaking any works under these consents the Consent Holder shall comply with all certified management plans.

Initial Construction Management Plans

65 The Consent Holder shall prepare the following Management Plans for Initial Site Construction Works, each encompassing a number of sub-topic Management Plans:

a Construction Environmental Management Plan (CEMP);

b Construction Traffic Management Plan (CTMP);

c Construction Noise and Vibration Management Plan (CNVMP);

d Construction Erosion and Sediment Control Plan (CESCP);

e Site Specific Erosion and Sediment Control Plan (SSESCP);

f Stream and Wetland Works Methodology Management Plan (SWMMP); and

g Erosion and Sediment Control Adaptive Management Plan.

Construction Environmental Management Plan

66 The purpose of the Construction Environmental Management Plan (CEMP) shall be to establish general procedures for all of the Initial Site Construction Works up until the landfill opens so that the construction works remain within the limits and standards approved under this consent and set out the management procedures and construction methods to be undertaken in order to avoid, remedy or mitigate potential adverse effects arising from construction activities.

67 The CEMP shall specify which upcoming stage of work is being addressed by the CEMP at the time the CEMP is submitted for certification by Council. Whenever further details are to be provided in advance for later stages of the work, then the CEMP shall be revised and again clearly state which aspects of the upcoming work are covered within the submitted plan

68 The CEMP shall provide details of the responsibilities, reporting frameworks, coordination and management required for effective Site management. The CEMP shall provide information on the following matters:

a Construction works programming;

b Site management;

c Consultation and communications;

d Confirmation of the construction methodology, including for permanent and temporary structures and clear identification of working areas and sensitive areas to be protected;

e Contact details of the Consent Holder's Project Liaison Person (phone, postal address, email address);

f Methods and systems to inform and train all persons working on the Site of potential environmental issues and how to avoid remedy or mitigate any potential adverse effects;

g Procedures used to avoid discharges of contaminants from the refuelling, cleaning, maintenance and storage of plant and equipment;

h Measures to address the storage of fuels, lubricants, hazardous and/or dangerous materials, in particular measures to require hazardous substances are stored outside of the 1 per cent annual exceedance probability (AEP) floodplain; and

i Contingency procedures to address emergency spill response(s) and clean up; and

j Procedures for incident management and to deal with extreme weather events.

k Measures to minimise the discharges of dust off-Site as far as practicable.

Stream and Wetland Works Methodology Management Plan

69 The objective of the Stream and Wetland Works Methodology Management Plan (SWMMP) is to set out the specific measures to be implemented during reclamation and culvert installation to minimise the discharge of sediment from the works area and to minimise effects on native freshwater fauna, and to ensure compliance with Condition 69A.

69A All streamworks undertaken on Site must comply with the following:

a No stream or wetland works on the subject site shall be undertaken between 1 May and 30 September in any year, without the prior written approval of Council.

b Dewatering of streams and wetlands as authorised by this consent shall only be carried out after native fish and Hochstetter's frog capture and relocation has been undertaken in accordance with the certified Native Freshwater Fish and Fauna Management Plan and Hochstetter's Frog Management Plan.

c Except for streams being removed, no machinery shall enter the wetted cross section of the bed of any stream at any time. All machinery shall be operated (including maintenance, lubrication and refuelling) in a way which ensures no hazardous substances such as fuel, oil or similar contaminants are discharged. In the event that any discharge occurs, works shall cease immediately, and the discharge shall be mitigated and/or rectified to the satisfaction of Council. Refuelling, lubrication and maintenance activities associated with any machinery should be carried out away from any water body with appropriate methods in place so if any spillage does occur that it will be contained and does not enter the water body. Maintenance / servicing areas should be detailed in the final Streamworks and Wetland Works Methodology Management Plan.

70 The SWMMP shall be prepared by a suitably qualified and experienced practitioner, set out the procedures to be implemented by the Consent Holder to ensure compliance with Condition 69A and also include at least the following:

a Methodologies and erosion and sediment control measures specific to the stream or wetland works being undertaken (providing location, dimensions, capacity, supporting calculations and design drawings) and confirmation that all controls are in accordance with industry best practice or the guidance contained in GD05, whichever higher standard is applicable;

b Timing and duration of works (in relation to the staging and sequencing of both stream and wetland works and earthworks), including scheduling at times when normal (for the time of year) in-stream flows can be diverted around the works and a fine weather forecast for the period of works;

c Reference and adherence (where applicable) to the Native Freshwater Fish and Fauna Management Plan required by condition 85 and Hochstetter's Frog Management Plan required by condition 84;

d Contingency plans and measures, including stabilisation of works areas overnight or during rain;

e Monitoring and maintenance requirements for the proposed erosion and sediment controls; and

f Permanent stabilisation measures of stream bed and banks upon completion of the specific works.

Advice Note: The streamworks methodology may be submitted for the whole Site or as a number of plans for specific works areas to allow for different methods within different areas and different timing/staging of works.

71 Stream and wetland works shall only be carried out in accordance with the approved SWMMP required in Conditions 69-70.

72 Prior to the commencement of works within streams or wetlands as part of the Initial Site Construction Works (i.e. bridge and culvert construction, and reclamation), the Consent Holder shall hold a pre-start meeting that:

a Is located on the subject site;

b Is scheduled not less than five days before the anticipated commencement of streamworks;

c Includes representation from Council;

d Is notified to TWEC not less than one week prior to the meeting to enable representation from TWEC, if they wish to attend; and

e Includes representation from the contractors who will undertake the works and a Project Ecologist.

The meeting shall discuss the erosion and sediment control measures and the streamworks methodologies and shall ensure all relevant parties are aware of and familiar with the necessary conditions of this consent.

73 The following information shall be made available at the pre-start meeting:

a Timeframes for key stages of the works authorised under this consent;

b Resource consent conditions;

c Native Freshwater Fish and Fauna Management Plan;

d Hochstetter's Frog Management Plan; and

e Streamworks Methodology including associated site-specific erosion and sediment control plans.

Advice Note: Pre-start meetings can be staged in relation to specific works areas. To arrange the pre-start meeting please contact the Council on monitoring@aucklandcouncil.govt.nz or 09 301 0101. The conditions of consent should be discussed at this meeting. All additional information required by the Council should be provided 2 days prior to the meeting.

74 [Deleted in 15 March 2023 version]

75 [Deleted in 15 March 2023 version]

Ecological Mitigation Plan

76 The Consent Holder shall develop an Ecological Mitigation Plan (EMP), prepared by an appropriately qualified ecologist/s. The Consent Holder shall consult with the Department of Conservation and TWEC during the development of the draft plan. If changes recommended by either party are not adopted, an explanation of why these changes have not been adopted shall be provided. The objective of the EMP is to address the potential adverse effects of the project on ecological and indigenous biodiversity values.

77 The EMP shall be comprised of the following sub-sections (described in conditions 80 - 110). For the avoidance of doubt, the sections below can be prepared as a standalone plan or as part of the EMP. All of the below plans shall be prepared in consultation with TWEC, CLG and the Department of Conservation (as necessary).

a Bats;

b Avifauna (birds);

c Lizards;

d Hochstetter's frogs;

e Freshwater fauna;

f Invertebrates (peripatus, snails);

g Vegetation clearance; and

h Kauri dieback.

77A All sub-plans which manage the salvage and relocation of terrestrial fauna (specifically lizards, Hochstetter's frogs and invertebrates as provided for at Conditions 83, 84 and 88) shall include:

a Copies of any Wildlife Act Authorities;

b Timing of the works;

c A description of salvaging methodology;

d A description of relocation methodology, including transfer methods, relocation site(s) selection and habitat enhancement measures (such as deployment of logs, rock refugia and pest control); and

e A description of compliance monitoring and reporting requirements as described in Conditions 78-78B.

78 The Consent Holder shall provide an annual compliance report to Auckland Council and TWEC during the period of salvage and relocation of terrestrial fauna. The report shall be submitted within 60 working days of completion of salvaging and relocation operations for that year. The report shall be prepared by an appropriately qualified and experienced ecologist(s) and shall include:

a Confirmation that the salvage and relocations have been carried out in accordance with the relevant sub-section of the approved EMP and associated consent conditions;

b Salvage and relocation results;

c Representative photos showing salvage methodology, captured individuals, salvage site and relocation sites; and

d Recommendations for potential changes to improve the effectiveness of fauna management in relation to the scope of the approved EMP sub-section.

78A The compliance reporting required in Condition 78 shall cease once salvage has been completed for each fauna group and all salvaged individuals have been relocated to the release site. A final report summarising the outcomes of salvage and relocation operations shall be submitted to Auckland Council within 3 months following the final fauna release.

78B Reporting requirements outlined in any Wildlife Act Authority Permits obtained for the Project shall be adhered to. Capture and relocation data will also be compiled, summarised, and submitted to DOC's national data repository (the Bioweb Herpetofauna database) annually for Hochstetter's frog, lizards and snails. As a minimum, that report shall include the following information:

a Wildlife Act Authority number and Project name and location;

b A summary of the species, numbers, and for Hochstetter's frog and lizards, the age/sex classes of individuals captured;

c The size of snails captured and empty shells;

d Locations of fauna captured or snail shells found; and

e Summary of salvage method, effort, and success.

79 Following completion of the Initial Site Construction Works, the Consent Holder may review and re-submit the EMP for certification in accordance with Condition 76, with the sections which are no longer relevant removed.

Bats

80 The objective of the Bat Management Plan (BMP) is to avoid and mitigate the effects on long-tailed bats from the removal of any vegetation and/or trees that are potential bat roost habitat, and ensure compliance with Condition 80A. The BMP will also cover wider effects management proposed to address the loss of habitat including time lags and other residual effects such as lighting. The BMP shall be prepared by a suitably qualified ecologist. The BMP shall include standard best practice tree felling protocol and lighting management.

Advice Note: This plan needs to be read in conjunction with the other sections of the EMP.

80A Works on Site must comply with the following:

a Removal of any vegetation and/or trees that are identified as potential bat roosts by a suitably qualified ecologist must be completed in accordance with and implementation of the DOC Protocols for minimising the risk of felling bat roosts, Version 2 October 2021, or the most recent version. This will be achieved through acoustic surveys, direct observation of trees prior to their removal, and/or by managing the time (month) of removal.

b Vegetation clearance reports are to be prepared and submitted to Council within one month of each season of tree felling being completed.

c For high-risk trees or contiguous groups of high-risk trees, clearance shall occur between October 1st and April 30th, inclusive, when bat roosts are more likely to be detected if present.

d Any living bat/s found during or after tree removal that are not able to fly away unassisted shall be taken to a vet immediately for assessment. Specific protocols shall be followed for handling and transporting injured bat/s in accordance with best practice methodologies.

e Lighting restrictions shall be in accordance with condition 234 for exterior lighting on Site, including the Bin Exchange Area.

f Additionally, lighting shall be subject to the limits and standards in Conditions 166 and 233-237 inclusive, to minimise light and to reduce glare from buildings.

g Artificial bat roosts shall be installed in habitat suitable for bat roosting within the Site, outside of the landfill footprint, as follows:

i One artificial roost shall be installed for every potential bat roost tree removed during enabling works, with the final number to be determined following completion of all tree removal;

ii The artificial bat roosts shall be deployed at a minimum height of four metres from the ground on an appropriate tree. Bat roosts shall be installed in alignment with the placement and installation recommendations made by the Department of Conservation, and metal bands shall be installed at each roost.

iii Artificial bat roosts shall be checked at least annually and any accumulated debris removed;

iv Metal bands shall be checked at least annually and maintained or replaced as required;

v For every potential bat roost tree removed, an exotic tree outside of the landfill footprint shall be subject to cavity creation or experimental ringbarking and left in situ; and

vi Any exotic trees that are subject to cavity creation or experimental ringbarking shall be protected to ensure they are not subsequently removed.

h ~~Acoustic monitoring shall be undertaken for 35 years from Initial Construction Commencement Date.~~ A radio tracking programme shall be undertaken in accordance with DOC best practice manual of conservation techniques for bats Version 1, 2012 by a suitably qualified and experienced person. This programme shall begin as soon as practicable but no later than the next available season (December to March) following the Initial Construction Commencement Date (subject to a DOC permit being obtained). This monitoring shall:

i Be informed by the deployment of Acoustic Monitoring Devices (ABMs) prior to beginning the radio tracking programme to determine potential hotspots of activity and appropriate tracking sites;~~Be undertaken on an annual basis for the first 12 years, and every three years from 12 years to 25 years;~~

ii Focus on gaining an understanding of the roosting range and potential roost locations of the population of bats present on the Site;~~Be conducted over a minimum of 4 weeks of fine weather nights, during the same 4 week period between December and March each year; and~~

iii Aim to determine the location of fifteen communal roost sites;~~Deploy a minimum number of 50 bat monitors (DOC AR4 model) each survey round, with the same locations monitored each round.~~

iv Be conducted for a minimum of three years (where there are three successful seasons of monitoring) and up to a maximum of five years; and

~~iii~~v Record that a "successful year" means the catching of at least two breeding females and tracking of each for a minimum of four nights.

i All monitoring results are to be sent to the DOC national database within one month of completing the site work.

j Annual monitoring reports are to be prepared by a suitably qualified and experienced person and are to be submitted to Council and DOC within two months of the completion of data collection each year that the radio tracking programe is in place~~site work being completed~~.

81 The BMP shall be prepared by a suitably qualified and experienced ecologist and set out the procedures to be implemented by the Consent Holder to achieve the objective set out in condition 80, ensure compliance with Condition 80A and also include at least the following:

a Details of ongoing monitoring and reporting of bat activity where occupied bat roosts are discovered on the Site;

b Management actions to minimise disturbance to bats from temporary or permanent lighting associated with the activities;

Commented [RMcV16]: Amendments to require a radio tracking programme instead of the acoustic monitoring programme as proposed by Waste Management's expert, Ms Mueller.

c Proposal for minimising disturbance from construction activities near any discovery of active roosts until the bat ecologist confirms they are vacant.

Avifauna (birds)

82 The objective of the Avifauna Management Plan (AMP) is to avoid or minimise any potential effects on avifauna from the construction works during breeding season, and ensure compliance with Condition 82A.

82A The AMP shall provide for grassland (NZ pipit only), forest and wetland bird breeding protection and effects minimisation, be prepared by a suitably qualified and experienced ecologist, and set out the procedures to be implemented by the Consent Holder to achieve the objective set out in condition 82 and ensure compliance with the following:

a No vegetation clearance shall occur during peak bird breeding season (September to December inclusive, extending to January inclusive in mature forest habitat) within:

i Native forest habitat (e.g. regenerating forest or mature native forest); or

ii Rank grassland (nesting habitat for NZ pipit);

iii Native and exotic wetlands; or

iv 30 m of wetlands unless closer setback authorised by Council.

The 30 m exclusion setback zone from the margin of wetlands to any construction works shall be established prior to the wetland bird breeding season commencing, as confirmed by a suitably qualified and experienced ecologist. The wetland exclusion setback zone shall be marked clearly with temporary cordoning for the attention of construction workers to ensure personnel do not disturb wetland birds.

b Within the bird breeding season, but outside of peak breeding season (January - March inclusive, or February/March in complex mature forest habitats), surveys for wetland birds, forest birds and NZ pipit shall be undertaken prior to vegetation clearance. Surveys shall be undertaken by an appropriately qualified ecologist within potential bird habitat.

c If native bird nests, eggs or chicks are identified in surveys as being present, then vegetation clearance shall not occur within 30 m of the nest until fledging occurs, as directed by a suitably qualified and experienced ecologist. The exclusion setback zone shall be marked clearly with temporary cordoning.

d Notwithstanding condition 82A above, small-scale vegetation clearance of less than 100 m^2 outside of the above seasons may be authorised by Council if unforeseen circumstances arise (such as a requirement for emergency access or to avoid, remedy or mitigate an adverse effect associated with the exercise of this consent) as specified in the AMP.

e During the peak matuku-hūrepo breeding season (September to December inclusive), any works associated with construction and operational activities in the Western block (i.e., Main Stockpile and Clay Borrow Area) shall:

v Begin at least one hour after sunrise; and

vi Cease at least one hour prior to sunset to avoid peak booming times.

f Where biodiversity outcome monitoring indicates bird scaring devices are impacting birds, the Consent Holder shall undertake active management to decrease the frequency or intensity of bird scaring devices utilised on Site.

g Monitoring of coastal avifauna species in the downstream receiving environment shall be undertaken in response to sediment and water quality triggers.

Advice Note: This plan needs to be read in conjunction with the other sections of the EMP and EREMP, which address offset/compensation measures and biodiversity outcome monitoring.

Lizards

83 The objective of the Lizard Management Plan (LizMP) is to minimise any potential effects on indigenous skinks and/or geckos within the Project footprint.

83A The LizMP shall be prepared by a suitably qualified and experienced herpetologist and set out the procedures to be implemented by the Consent Holder to achieve the objective set out in Condition 83 and ensure compliance with the following:

a Lizard salvage shall only be undertaken during the period from 1 October to 30 April inclusive.

b Daytime pre-construction skink salvaging shall include:

i the deployment of artificial cover objects (ACOs) within all suitable skink habitats within the project footprint (i.e. native and exotic forest and rank pasture habitats) a minimum of four months prior to vegetation removal.

ii ACOs shall be checked at two-week intervals, commencing four weeks prior to vegetation clearance, and up to and immediately prior to vegetation clearance (i.e. three checks per ACO). The ACO checks shall be undertaken during weather conditions and timeframes deemed by the project lead herpetologist to be suitable for ACO-based lizard capture.

c Manual and destructive salvaging before vegetation clearance shall include a minimum of 10 person hours per ha within native or wattle forest and associated rank grassland and 1 person hour per ha in exotic pine forest:

i Turning over or pulling apart cover objects (e.g. coarse woody debris or rocks);

ii Raking of leaf litter or ground cover (e.g. pampas or tradescantia); and

iii Habitat searches of low growing epiphytes, dense low-growing vegetation, loose tree bark, fern skirts and woody debris.

d Nocturnal pre-construction searching for geckos prior to native vegetation clearance shall include a minimum of three separate nights during the four weeks leading up to the scheduled commencement of vegetation clearance, a minimum of 20 hours searching per km of native or wattle forest margin will be undertaken with an additional 2 person hours searching per km for every gecko found up to a maximum of 40 person hours per km.

e Construction assisted salvaging will include machine assisted clearance of low stature non-woody vegetation and the removal of large cover objects that cannot be searched manually (e.g. large decomposing logs).

f All salvaged lizards shall be relocated on Site and into the Wayby Valley Sanctuary following pest eradication. Lizards shall be relocated into suitable species-specific micro-habitats within the relocation site(s) that have been enhanced via the deployment of felled coarse woody debris (decaying or felled logs) that have been salvaged from the project footprint.

g A suitably qualified herpetologist shall oversee the salvage and relocation programme.

Advice Note: This plan needs to be read in conjunction with the other sections of the EMP and EREMP, which address offset/compensation measures.

Hochstetter's frog

84 The objective of the Hochstetter's Frog Management Plan (HFMP) is to minimise any potential effects on frogs within streams and to maximise the potential for success of any relocation of frogs.

84A The HFMP shall be prepared by a suitably qualified and experienced ecologist and set out the procedures to be implemented by the Consent Holder to achieve the objective set out in Condition 84 and ensure compliance with the following:

a Manual destructive frog salvaging shall be undertaken in all suitable frog habitat from December to April inclusive.

b During pre-vegetation clearance salvaging manual searching of suitable stream shall be undertaken prior to vegetation clearance and streamworks, targeting specific frog habitat such cascade complexes, edge of waterfalls, and rock piles. 100 person-hours of salvaging will be undertaken for every 1km of suitable stream habitat.

c Pre-earthworks clearance shall be undertaken prior to earthworks targeting specific frog habitat that remains following vegetation clearance, such as shaded cascade complexes, edge of waterfalls, and rock piles.

d Construction-assisted salvaging shall be undertaken during streamworks to recover any remaining frogs that could not be feasibly~~ibility~~ salvaged during pre-earthworks salvaging operations.

e The capture, handline and transport of frogs shall adhere to the latest national Frog Hygiene Protocol and shall follow the highest level of hygiene protocol therein, as specified in the HFMP, to minimise possible spread of chytrid fungus and other pathogens.

f The release site/s for Hochstetter's frog within the pest-exclusion fence shall be selected in consultation with DOC, TWEC, and approved by Council.

g Rock salvaging that shall include the deployment of salvaged stream bedrock within the pest eradication fence. A minimum of 5kg of rock will be salvaged for every frog captured and up to a maximum of 5000kg. A suitably qualified herpetologist shall oversee the salvage and relocation programme as per the HFMP.

Freshwater fauna

85 The objective of the Native Freshwater Fish and Fauna Management Plan (NFFFMP) is the recovery and relocation of fish, kōura and kākahi (if present) in the sections of waterways affected by instream works, prior to instream works occurring.

85A The NFFFMP shall be prepared by a suitably qualified and experienced ecologist and set out the procedures to be implemented by the Consent Holder to achieve the objective set out in Condition 85 and ensure compliance with the following:

a The NFFFMP shall be implemented prior to any instream works commencing. An authorisation shall be provided by a suitably qualified and experienced ecologist as to when the implementation of the site specific measures of the NFFFMP is complete and instream works can commence;

b Prior to the setting of traps for fauna capture, streams and wetlands are to be isolated using fish exclusion barriers. Each exclusion barrier must be inspected and maintained daily by the contractor to ensure structure integrity is maintained until works in that area are complete;

c Where traps are used, trap density is to be 9 fyke nets and 18 gee's minnow traps per 150m, except where habitat would not allow for this density of traps;

d Where traps are to be used and there is a risk of night time anoxia, traps will not be fully submerged, to allow fish to surface breath;

e Trapping efforts will be set to a minimum of one night for stream reaches with the following reduction standards:

i If native fauna with a conservation status of 'Threatened' or 'At Risk – Declining' are captured, trapping will continue until no further 'Threatened' or 'At Risk - Declining' individuals are captured;

ii If native fauna without the above conservation status are captured at densities of greater than 10 fish per 150m reach, then trapping will continue until a reduction of >50% between the highest and lowest number of individuals captured on two consecutive nights is achieved;

iii If the Project freshwater ecologist considers the site suitable, then the second or third night of trapping prior to dewatering may be done after partial dewatering has occurred in accordance with the dewatering protocol in the NFFFMP;

f Notwithstanding the above, traps will be deployed for a maximum of 4 nights;

g Where electric fishing is used, electric fishing will occur for a minimum of 3 passes, then:

i After three passes, if the number of captured fauna has decreased by >50% between each of the three passes, then it will be considered appropriate to begin dewatering;

ii If native fauna with a conservation status of 'Threatened' or 'At Risk – Declining' are captured, then further electric fishing passes will be undertaken until no further 'Threatened' or 'At Risk - Declining' individuals are captured;

iii For native freshwater fauna without the above conservation status, if the number of individuals of a species captured between any two consecutive passes decreases by <50% then further electric fishing passes will be undertaken until the decrease is >50% or <10 individuals are captured;

h During dewatering, fish screens of 3mm are to be used on the inlet on any pumps used, and intake velocities are to be of <0.3m/second;

i Unless being redeployed in the same subcatchment, all nets and/or traps used will be cleaned, sterilised and allowed to dry for no less than one week prior to the next use, ensuring that all plant material (seeds or plant material that is able to regenerate) is either removed or dead, reducing the risk of transferring the freshwater pest plants to new locations;

j All pest fish caught will be humanely euthanized using clove oil (50mL per 10L of water) or benzocaine (3.3% solution in ethanol, 50mL per 10L of water).

85B The NFFFMP shall build upon the specific measures identified in the ~~[final EnvC]~~draft version dated June 2022 and also include:

a The CEMP and SWMMP methods referred to in the Section 92 response dated 20 December 2019 and required by conditions 66 and 69;

b The timing and duration of fish capture taking into account the timing of construction and forestry works to ensure capture occurs before Initial Site Construction Works, including vegetation removal;

c Further salvage and relocation efforts may be warranted post-forestry harvest where practicable and where viable habitat remains in Landfill Valley. Where it is deemed not necessary, justification needs to be provided in the report required by condition 87;

d The timing of streamworks to consider the spawning and migration period of fish present in the affected catchment;

e The methodologies used to ensure fish are captured and transported in accordance with best practice and to enable agile response to observations made during salvage;

f Update salvage effort and reduction rates to ensure residual adverse effects on indigenous freshwater fauna are minimised to the extent practicable;

g Specific measures for ensuring fish upstream and downstream in the catchment do not enter the works area;

h Specific measures to provide for passage past the works area (if required);

i Fauna relocation sites including an assessment of habitat quality and suitability (including consideration of opportunities to introduce additional habitat features where beneficial) and a survey to determine carrying capacity;

j The results of winter/spring mudfish surveys undertaken within the impact area of the Main Stockpile and the Wayby Wetland South within the proposed Wayby Valley Sanctuary and specific mudfish related salvage protocol (if required); and

k Accidental discovery protocol for mudfish.

86 A suitably qualified freshwater ecologist shall oversee the streamworks for the project and specifically to conduct the freshwater fauna relocation as per the NFFFMP.

87 The Consent Holder shall provide a compliance report to Auckland Council and the TWEC on the results of the native freshwater fauna relocation annually, in June of each year. The Consent Holder shall provide a final report on the results of the native freshwater fauna relocation within 20 working days of fully implementing the NFFFMP.

Advice Note: Condition 85 does not discharge the Consent Holders' responsibilities under any other Act.

Advice Note 2: This plan needs to be read in conjunction with the other sections of the EMP and EREMP, which address offset/compensation measures.

Invertebrates

88 The objective of the Invertebrate Management Plan (IMP) is to describe the specific procedures to address potential adverse effects associated with the construction and operation of the Project on peripatus, rhytid snails and kauri snails (if present) through salvage and relocation.

88A The IMP shall be prepared by a suitably qualified ecologist and set out the procedures to be implemented by the Consent Holder to achieve the objective set out in Condition 88 and ensure compliance with the following:

a Vegetation clearance must not be undertaken between 1 May and 30 September inclusive.

b Salvage for rhytid snails shall only be undertaken during the period from 1 October to 30 April inclusive and is to be undertaken in conjunction with salvaging for frog and lizard species. During periods of dry weather, searches shall be delayed until conditions are more conducive to snail surveys.

c Daytime salvaging shall be carried out for rhytid snails and their shells and is to be undertaken in conjunction with salvaging for frog and lizard species. Systematic salvaging shall be undertaken in the two weeks prior to the commencement of vegetation clearance, and during and immediately following vegetation clearance in all forest habitats. A combined minimum salvage effort of 10 person hours per ha within native or wattle forest and 1 person hour per ha in exotic pine forest shall be undertaken before, during and immediately after vegetation clearance;

d An initial walkover of areas to be cleared shall be carried out to identify moist areas with abundant leaf litter, debris and/or low growing vegetation that may provide suitable snail habitat. These areas will then be thoroughly searched.

e The daytime searches in (c) above shall also occur during and immediately following vegetation clearance in all forest habitats.

f If live snails are salvaged, then empty snail shells shall also be translocated to provide calcium for translocated snails.

g Relocation of snails shall follow protocols for capture, handling, and transport set out in the IMP.

h Felled or fallen logs greater than 60cm diameter shall be cut into 0.5 – 1.5m lengths and deployed at 12m/ha into the terrestrial revegetation sites to provide habitat for invertebrates and other species as required by Condition 95g.

i Any peripatus found during searches shall be salvaged indirectly through log salvage. A minimum of 10 logs or 10% of available and moveable decaying logs shall be relocated into the terrestrial revegetation sites. Logs for the purpose of peripatus salvage shall relocated the same day during daylight hours, no more than four hours following extraction.

j A suitably qualified ecologist shall oversee the salvage and relocation programme as per the IMP.

Advice Note: This plan needs to be read in conjunction with the other sections of the EMP and EREMP, which address offset/compensation measures.

Commented [RMcV17]: Edits proposed to clarify salvage and translocation of snails

Vegetation Clearance Management Plan

89 The objective of the Vegetation Clearance Management Plan (VCMP) to minimise the area of habitat/vegetation impacted by the project construction of the project, reduce the risk of harm to indigenous fauna through seasonal constraints and pre-clearance activities that enable survey and salvage operations.

89A The VCMP shall be prepared by a suitably qualified and experienced ecologist, and set out the procedures to be implemented by the Consent Holder to achieve the objective set out in Condition 89 and ensure compliance with the following:

a No vegetation clearance shall occur until all pre-clearance management measures have been undertaken or are in place as confirmed by the project botanist.

b Prior to any vegetation clearance:

i The project footprint must be physically delineated where it is adjacent to vegetated areas.

ii Individual mature native trees or bat roost trees located in close proximity to, but outside, the project footprint shall be identified by a suitability qualified ecologist and marked by flagging tape or fencing.

iii Sediment control measures shall be undertaken to avoid or minimise effects on wetland birds and aquatic species due to effects on water quality.

iv Fauna salvage, relocation and/or survey shall be undertaken as required by Conditions 80A, 82A, 83A, 84A, 85A and 88A.

v Pre-vegetation clearance bat monitoring and implementation of tree-felling protocol for potential bat roost trees shall be undertaken in accordance with the BMP and Condition 80A.

c Vegetation clearance must adhere to the specific timing restrictions for indigenous fauna as follows:

i For bats, lizards, Hochstetter's frogs, and invertebrates, no vegetation clearance shall occur between 1 May and 30 September inclusive.

ii For avifauna, seasonal restrictions are specified in Condition 82A.

d Notwithstanding Condition 89Ac) above, <100m^2 of vegetation clearance may be undertaken with Council approval if unforeseen circumstances arise as specified in the AMP (such as a requirement for emergency access or to avoid, remedy or mitigate an adverse effect associated with the exercise of this consent).

e Vegetation shall only be cleared in line with scheduled construction works beginning in the Landfill project footprint.

f Within native regenerating forest, native mature forest, wetlands and wetland margins (vegetation < 30 m from wetlands), vegetation clearance/habitat loss activities shall be overseen by a suitably qualified ecologist;

g Vegetation shall be directionally felled away from the physically marked edge (Landfill project footprint boundary), to prevent damage to the vegetation immediately adjacent to the footprint, unless deemed to be unsafe.

h Following vegetation clearance:

i Vegetation shall be stockpiled prior to removal or mulching to minimise harm or injury to nationally 'At Risk' geckos. To the extent feasible, felled mature or regenerating native vegetation shall be de-limbed (main trunk only) and stockpiled adjacent to remaining mature or regenerating forest for a minimum of 1 month.

ii A minimum of 12 m per hectare of stockpiled logs and already fallen decaying logs shall be deployed into terrestrial and wetland offset sites for habitat enhancement in accordance with Condition 96. Log material shall be placed in locations where it is unable to be dislodged into streams with deployed logs to be a minimum of 60cm diameter and cut into 0.5m – 1.5 m lengths.

Advice Note: This plan needs to be read in conjunction with the other sections of the EMP and EREMP, which addresses offset/compensation measures.

Kauri Dieback Management Plan

90 The objective of the Kauri Dieback Management Plan (KDMP) is, to avoid and minimise the risks of introducing or spreading kauri dieback disease when forming the access road to Main Stockpile and the Clay borrow area.

90A The KDMP shall be prepared by a suitably qualified expert in biosecurity, plant pathology or similar and set out the procedures to be implemented by the Consent Holder to achieve the objective set out in Condition 90 and ensure compliance with the following:

a How Kauri Contamination Zones (KCZs) in proximity to the stockpile access road will be protected from access through the implementation of a 10 m minimum separation from the access road to the trunk of any Kauri trees, identified and signposted to clearly communicate the delineation and protocols required in relation to the KCZ;

b The kauri dieback hygiene protocols to be followed by any staff or visitors entering a KCZ;

c The tree protection protocols to be followed in order to minimise damage or stress to kauri in proximity to the stockpile access road or with rootzones extending into the access road works area;

d Measures to minimise the need for works within the KCZ, and how works within KCZs will be carried out in a manner that minimises the impact on the kauri and the risk of introducing or spreading P. agathidicida within or between KCZs;

e Identification of the suitably qualified person who will supervise works within KCZs;

f Methods used to remove all soil from and decontaminate vehicles, equipment, personnel, footwear etc when entering and exiting KCZs, and how run-off from this activity will be contained and disposed of in a manner that poses minimal risk of spreading P. agathidicida;

g How drainage, run-off, or other water discharges from the access road will be directed away from kauri and their rootzones;

h How material from within KCZs will be transported to approved landfill facilities with minimal risk of material loss enroute; and

i The KDMP should be reviewed and updated to reflect the most up-to-date best practice for the prevention and treatment of kauri dieback, to ensure that when works commence, the most appropriate controls are in place to manage the spread of kauri dieback disease.

Advice Note: This plan needs to be read in conjunction with the other sections of the EMP, which addresses offset/compensation measures.

Ecological Residual Effects Management Plan

90B The Consent Holder shall develop an Ecological Residual Effects Management Plan (EREMP), prepared by a suitably qualified and experienced ecologist/s. The Consent Holder shall consult with the Department of Conservation and TWEC during the development of the draft EREMP and all sub-plans. If changes recommended by either party are not adopted, an explanation of why these changes have not been adopted shall be provided. The objective of the EREMP is to enhance fauna relocation sites associated with salvage and relocation programmes and address the potential residual adverse effects of the project on ecological and indigenous biodiversity values.

The EREMP shall be comprised of the following sub-section plans. For the avoidance of doubt, the sections below can be prepared as a standalone plan or as a part of the EREMP of the below plans shall be prepared in consultation with TWEC

- Habitat Enhancement and Restoration Plan (condition 91)
- Pest Fence Construction and Maintenance Plan (condition 101E)
- Ecological Pest Animal Management Plan (condition 102)
- Biodiversity Outcome Monitoring and Adaptive Management Plan (condition 110A-118AA)
- Wetland Restoration Adaptive Management Plan (condition 118A)
- Pest Management Operational Plan (including Biosecurity Plan) (condition 101G)

Habitat Enhancement and Restoration Plan

91 The objective of the Habitat Enhancement and Restoration Plan (HERP) is to meet the relevant conditions of this consent and to ensure the replacement/replanting of plant species that have been affected by the project, invasive weed control and the optimisation of ecological benefits

through improving ecological connectivity between habitat types and protecting significant habitat types through buffer/margin plantings and enhancing fauna relocation sites associated with salvage and relocation efforts. The HERP shall describe forest, wetland, and riparian, wetland margin revegetation, habitat enhancement and weed control methods to be undertaken for the project, within the Site. The HERP shall be consistent with and complementary to the Ecological Pest Animal Management Plan required by condition 102 and the Stream Offset Works Plan required by condition 120.

92 The planting areas shall be in general accordance with those shown on Indicative Onsite Residual Ecological Effects Management Package ~~Proposed Revegetation Plan~~, Figure 14, rev 1 dated May 2022 ~~[insert final date]~~.

93 The residual effects management measures set out below (and in accordance with *Auckland Regional Landfill: Indicative Onsite Residual Ecological Effects Management Package, Figure 14, [insert final date]*) must be included within the HERP and undertaken within 5 years of the commencement of consent. The quantum and type of the management is subject to finalisation of the overall ecological effects management package and subject to input from DOC, TWEC and Council as to the final planting schedules and plans:

a Riparian planting and protection of 8km of stream and retirement and protection of 11 km of stream within the Site. The riparian planting shall be detailed in the Stream Offset Works Plan (SOWP) required by condition 120, and must include:

- relocation of salvaged logs and rocks from the project footprint for enhancement of lizard, invertebrate, Hochstetter's frog habitat;
- invasive weed management for 10 years following planting;
- stock exclusion;
- artificial bat roost box deployment for bat habitat enhancement;
- mammalian pest management (in accordance with conditions 102 - 110 ~~refer out to mammalian pest related conditions~~); and
- protection by covenants.

b 44.27 ha of native revegetation on the Site which include 39.38 ha of terrestrial vegetation and 4.89 ha of wetland vegetation. This revegetation shall be enhanced with:

- invasive weed management for 10 years following revegetation;
- stock exclusion;
- artificial bat roost box deployment for bat habitat enhancement;
- relocation of salvaged logs and rocks from the project footprint for enhancement of lizard and invertebrate habitat;
- mammalian pest management (in accordance with conditions 102 - 110 ~~refer out to mammalian pest related conditions~~); and
- protection by covenants.

c A mammalian pest management programme that includes:

- Eradication of mammalian pests within 125.73 ha of terrestrial and wetland habitat within the Wayby Valley Pest Exclusion Fence; and
- Long term pest control within 233.86 ha of existing forest habitat including 79.36 ha of pest control within existing mostly native forest and revegetated areas on the Site and 154.50 ha of native forest in the adjacent Sunnybrook Reserve.

Advice Note: This excludes 103.34 ha of intensive pest control buffer in pine forest as well as the less intensive pest control operations within the remainder of exotic forest on the Site.

d Protection by covenant in accordance with Conditions 5 ~~45~~ – 55 of all existing and new native forest and wetland habitats on the Site and the ecological enhancement of these habitats through:

- invasive weed management for 10 years following revegetation;
- stock exclusion and associated maintenance of the pest exclusion fence;

Commented [RMcV18]: To delete if funding is provided directly to KMR

Commented [RMcV19]: Matariki has sold three areas of transferable title rights (ie protection of Significant Ecological Areas) to third parties (totalling 16.83ha of native forest). No other sites are expected to be sold.

These areas will continue to be subject to pest control and will remain in the Ecological Pest Animal Management Plan, but the BCM outputs will need to be adjusted. WM is happy to discuss this directly with the parties, if required.

- mammalian pest management (in accordance with conditions 1024 - 110); and
- Mammalian pest control on Sunnybrook Reserve (154.5 ha) in accordance with conditions 104 - 110.

94 In addition to the above, the planting shall be based on the conceptual layouts of the Mitigation Plans depicted in Figure 8: Site Wide Ecological and Landscape Plan, Revision: D – Drawing No.A18038B_15 dated 10 February 2022 ~~[insert final date]~~ and Figure 9: Landfill Area Ecological and Landscape Plan, Revision: D – Drawing No.A18038B_12 dated ~~[insert final date]~~ 10 February 2022 and the ecological management plans outlined in Conditions 76-110.

95 The HERP shall a set out the procedures to be implemented by the Consent Holder to ensure compliance with the following:

a All plantings from the Myrtaceae family of species shall be sourced from a nursery that is a signatory to Myrtle Rust Nursery Management Declaration V6, 11 October 2017 that certifies that the plant producer has implemented the New Zealand Plant Producers Incorporated Myrtle Rust Nursery Management Protocol (Myrtle Rust Nursery Management Protocol – V6, 11 October 2017) or the latest version available at the time of planting.

b Site preparation inspections shall be undertaken between December and February to inform the types of site management actions required in preparation for offset planting. The information to be recorded in these site inspections must be specified in the HERP.

c Prior to planting, deployment of logs shall be undertaken in accordance with the VCMP and condition 95(g) and, where required, fencing, and weed and animal pest control.

d Pest plants and weeds shall be controlled in summer to autumn (January - March inclusive) to a low level prior to planting in accordance with the methodology specified in the HERP.

e All chemical control shall be carried out by qualified contractors trained in chemical application for weed control and adhere to NZS 8409:2004 "Management of Agrichemicals" or subsequent updated standard.

f Livestock shall be excluded from all revegetation enhancement and restoration sites. Setbacks of ≥ 1 m from plantings will be exercised to prevent livestock from grazing the planted edges.

g Log material shall be deployed into terrestrial, wetland, and stream/riparian offset and compensation sites in accordance with the VCMP. Felled native (preferably) or exotic log deployment into offset and compensation sites shall be undertaken as detailed in the VCMP. A minimum of 12 m / ha of stockpiled logs of at least 60cm in diameter and cut into 0.5 – 1.5m lengths shall be deployed into terrestrial, wetland, and stream/riparian offset and compensation sites. Log material shall be placed in locations where it is unable to be dislodged into streams.

h Plant species shall be eco-sourced from the Rodney Ecological District, preferably from a nearby source to the Site. Species shall be selected in consultation with local hapu and iwi.

i Enhancement plantings shall be inspected twice a year, once in spring and once in autumn, for the first five years. Plants that do not survive shall be replaced with either the same species or an alternative appropriate species from the planting species matrix in the HERP, in the following planting season.

j Planting plans for stream riparian margins and wetland areas shall be in accordance with the Auckland Regional Council Riparian Zone Management Strategy for the Auckland Region, Technical Publication 148, June 2001 (TP148) and Appendix 16 of the Auckland Unitary Plan 'Guideline for native revegetation plantings'.

96 In addition to the above limits and requirements, the details of the HERP shall include:

a Confirmation of the areal extent and spatial configuration of plantings proposed;

b Description of the objectives of the mitigation, offset and compensation planting / landscape treatment, including the intent of each of the planting areas and how this will be fulfilled over time as the plants develop and age, including details of how the anticipated

outcomes used in the SEV calculations and Biodiversity Offset Accounting Model (where relevant) will be achieved;

c Identification of areas of existing vegetation to remain or be removed and the methodology for managing, and supplementing this vegetation where necessary in a timely manner to maintain the objectives;

d Site preparation, e.g. fencing, weed or animal pest management and habitat enhancement (e.g. deployment of felled logs in revegetation sites);

e Timing of plantings;

f Schedules of planting, including plant species composition, plant sizes, plant densities, measures of stock condition (e.g. health of plant stock) the use of growth enhancement measures where required (e.g. fertiliser tablets or stock guards), efforts to verify that all planted species are ecosourced from the Rodney Ecological District (or, for less common species, DOC approval to source from adjacent Ecological Districts).

g Plant maintenance methods for ensuring successful establishment and long-term persistence of plantings, including the duration of maintenance, methods for ongoing control of weed or animal pests and infill planting;

h Monitoring and reporting requirements, including at a minimum annual reporting to Council for a period of no less than 10 years;

i Covenanting/encumbrance details

j A method for a site-specific assessment of the risk of stream bank erosion and the likely successful establishment of proposed riparian planting where relevant

k A method for a site-specific assessment of the proposed wetland restoration of Wetland 2A and Wetland 2B in accordance with condition 118A including:

i. the need for any modifications to the hydrological regime to restore the wetland hydrology as set out in the Wetland Restoration Adaptive Management Plan

ii. weed management (including weed identification and appropriate methodology for controlling key wetland weeds

iii. location of wetland enhancement planting and identification of target ecosystem type for each area.

iv. separate plant schedules appropriate to each target wetland ecosystem type. Specifically, kahikatea pukatea swamp forest WF8, mānuka fen (WL12) and potentially localised areas of raupō swamp (WL19).

v. Final design details of stockpile associated features affecting the proposed wetland restoration (including alteration to wetland hydrology).

97 Should the actual area of habitat impacted by the project be reduced through detailed design, the Consent Holder shall have the ability to demonstrate, using best practice transparent and quantified accounting methods prepared by a suitably qualified ecologist, that the required area of ecological restoration has been reduced. This is subject to the Consent Holder providing sufficient evidence of the actual area of clearance and/or reclamation and demonstrating to Council that the area of clearance is less than the consented area. The Consent Holder shall then submit an updated HERP based on the revised restoration planting area.

98 [Deleted in 15 March 2023 version]

99 All restoration and mitigation planting described in the HERP shall be implemented and completed within ten (10) years following commencement of consent. Written confirmation shall be provided to Council within 30 days of the works being completed confirming that all planting and habitat enhancement works have been completed in accordance with the HERP.

100 The HERP shall include details pertaining to the monitoring and maintenance of the restoration and enhancement planting undertaken in accordance with the HERP, and the following parameters:

a Monitoring and maintenance shall be undertaken for a period of ten (10) years.

b Monitoring and maintenance shall ensure plant densities and 90% survival rate are maintained.

c Any plants that die should be replaced in the following planting season.

d Replacement planting and planting maintenance shall continue beyond year 10 until 90% survival and 90% canopy closure is achieved.

e Monitoring timing shall be specified in the HERP and shall be undertaken at times that avoid transient conditions, such as flood events.

f The Consent Holder shall provide photographs that demonstrate a minimum 90% survival rate of all planted and restoration areas.

Landscape and Visual Management Plan

101A The objective of the LVMP is to ensure that the ongoing landscape management avoids, remedies or mitigates the actual and potential adverse landscape and visual effects of the consented landfill operations.

101B The LVMP shall set out the procedures to be implemented by the Consent Holder to achieve the objective set out in Condition 101A and ensure compliance with the following:

a Compliance with the requirements at Conditions 297 – 301;

b Establish and maintain tree shelterbelts to provide effective visual screening of the landfill;

c Native revegetation along the cut and fill slopes around the bin exchange area and along the main access road;

d Planting of fast growing trees and native plants adjacent to the roundabout and State Highway 1 to re-establish this roadside character and provide further screening of the project activities;

e Management of the off-Site visually exposed face of the stockpiles wherever possible, with the front face formed, shaped and vegetated, as filling progresses;

f Stabilisation with grass, erosion mats or tarps, of bare earth surfaces of the inactive stockpiles and clay borrow pit areas on completion of filling/earthworks at the end of each summer earthmoving season;

g Planting on the side slopes and ridges around the perimeter of Landfill Valley and around the stockpiles and clay borrow pit to assist in integrating and screening project works;

h Screen planting along access roads within the Site to the extent practicable;

i Ensure planting is of an appropriate scale and mix of species to reflect the existing vegetation structure of the rural and forested area; and

j Outline an ongoing and adaptive planting and management process for the landfill

Construction and Maintenance of the Mammalian Pest Exclusion Fence

101C The objective of the Pest Fence Construction and Maintenance Plan is to provide details to enable the construction of a 7.6 km mammalian pest exclusion fence around 126 ha of Waste Management land, as generally described in plan ~~*Ecology Figure (X1)*~~ *"Overview" Figure X1_WVS_05 Prepared by Tonkin & Taylor Limited. Revision ~~(0)~~1, dated ~~19/01/~~July 2022* with the fence being built to a design and to a level of construction precision that is recognised in New Zealand based on scientifically valid animal behaviour trials and proven in-situ performance, as being effective at excluding all mammalian pests that occur in New Zealand including mice, rats (Norway and ship), weasels, stoats, ferrets, possums, feral cats, rabbits, hares, goats, pigs and deer.

101D At a minimum, the pest exclusion design and construction specifications shall include the following:

a All points of the fence will stand at least 1.9 m above the ground level or above any adjoining structure or object;

b The fence will have a mesh covering over the face of the fence with mesh apertures that measure no more than 6mm across one dimension;

c The fence will have a solid hood or cap installed on the top of the fence that is of a design and made of materials that have been proven as an effective barrier against cats and all climbing mammalian pests.

d The fence will include a wire mesh skirt that extends no less than 350mm horizontally out from the base of the fence. The wire mesh will have apertures that measures no more than 6mm across one dimension.

e The fence will have no angles / bends that are greater than 45 degrees from straight;

f Fence construction methodology will ensure no gaps wider than 6 mm exist when the fence has been completed.

g Vegetation will be cleared to ensure that no less than a 4 metre wide cleared zone is created and maintained on the outside (pest side) of the fence.

101E The Pest Fence Construction and Maintenance Plan shall be prepared by a suitably qualified and experienced person and set out the procedures to be implemented by the Consent Holder to achieve the objective set out in Condition 101C, the specifications set out in condition 101D and shall specify:

a The route of the fence;

b Design specifications of the mammalian pest exclusion fence including required vegetation clearance, the ground platform formation, the materials to be used to construct the fence, and the fence physical dimensions and gates for pedestrian and equipment access;

c Design specifications of the stream crossings including requirements to make the stream crossings pest proof and also allow native fish passage;

d Design detail of the stormwater management alongside and under the line of the fence; and

e Fence inspection maintenance and biosecurity requirements to sustain the fence in a state able to exclude all mammalian pests. This shall include an automated electronic alert / surveillance system which will immediately notify the Landfill Manager of any damage or potential breaches of the fence. The Landfill Manager shall respond within 12 hours of any fence breach alerts to undertake fence repairs.

101F The mammalian pest exclusion fence shall be constructed within the following timeframes:

a The pest exclusion fence that is on the southern side of the Access Road shall be completed as soon as practicable from~~, but no later than 12 months of~~ commencement of consent; subject to it being completed in a timeframe that allows three months of frog relocation from any pine forest prior to harvest of that location of pine forest, should frogs being relocated from impact areas on Site be moved to the fence and not another location outside of the Site.

b The pest exclusion fence that is on the northern side of the Access Road shall be completed immediately following the completion of the Access Road, and no later than the commencement of landfilling.

101G Prior to commencement of the eradication programme within the pest-exclusion fence, a Pest Management Operational Plan (PMOP) shall be prepared by a suitably qualified and experienced person. The operational plan shall contain as a minimum:

a Feasibility study to identify all issues to overcome to deliver and sustain the stated goals and predicted outcomes with the maximum chances of success.

b An Assessment of Environmental Effects;

c An Operational Plan, including a Risk Management Plan, to clearly outline the design, roles, actions, logistics and timeline to achieve project goals, meet legal requirements and undertake required mitigations.

d Peer review comments on each section;

e A record of revisions undertaken in response to the peer review; and

Commented [RMcV20]: WM intends to construct the pest fence as soon as practicable, this amendment is made to reflect that unforeseen delays may arise

f A Biosecurity Plan that identifies potential sources of pest re-invasion and any necessary mitigations required to prevent/address this re-invasion.

101H The Consent Holder shall enter into a land covenant in favour of Auckland Council for the pest exclusion fence area identified in ~~[RT of relevant Sanctuary land~~ *"Overview" Figure X1 WVS 05 Prepared by Tonkin & Taylor Limited. Revision 1, dated July 2022*~~]~~ within 6 months of the completion of construction of the mammalian pest exclusion fence following conditions 101B-104E above. The covenant shall:

a Require that the mammalian pest exclusion fence is maintained by the Land Owner ~~of [RT of land]~~ to the specifications set out in the Pest Fence Construction and Maintenance Plan;

b Require that pest control within the fence is maintained by the Land Owner ~~of [RT of land]~~ in accordance with the Ecological Pest Animal Management Plan and Pest Management Operational Plan;

c Be drafted and submitted to the Council's nominated Solicitor for certification at the Consent Holder's cost;

d Be registered against the Computer Register(s) (records(s) of title) to the affected land by the Consent Holder at their cost; and

e Require the Land Owner ~~of [RT of land]~~ to:

– Be responsible for all legal fees, disbursements and other expenses incurred by the Council in connection with the covenant; and

– Reimburse the Council for costs, fees, disbursements and other expenses incurred by the Council as a direct or indirect result of the council being a party to this covenant.

f Ensure compliance with condition 109 relating to pest population targets.

Commented [RMcV21]: Amendment to reference latest pest fence plan

Ecological Pest Animal Management Plan

Advice Note: These conditions refer to the pest management programme being offered to help address adverse effects of the project on ecological values. Separate conditions are proposed (Conditions 384 to 386) to address predators and vermin within the landfill operational areas.

Commented [RMcV22]: This condition has been amended to reference the proposed pest control in the Northern Valley, but this management plan has not yet been updated to cover this area and will need updating in due course

102 The objectives of the Ecological Pest Animal Management Plan (EPAMP) are to achieve, as a minimum:

a ~~**Mammalian p**~~**Pest** ~~**e**~~**Exclusion Fenced** ~~**a**~~**Area**~~**s**~~ - Two proposed pest exclusion fenced areas on ~~Waste Management land~~the Site (currently referred to as Wayby Valley Sanctuary). These areas will be eradicated of all target pest species, including mice, rats (Norway and ship), weasels, stoats, ferrets, possums, hedgehogs, feral cats, rabbits, hares, goats, pigs and deer, with ongoing pest surveillance and incursion response protocols, as well as fence maintenance and inspection protocols.

b **Intensively managed Waste Management Land** – Pest control for all target species to control and maintain populations at the identified management targets for each species.

c **Landfill Buffer** – A buffer zone of pest control surrounding the proposed landfill and intensively managed Waste Management land, which aims to minimise reinvasion. This strip of land will be monitored, but will not be subject to pest control targets.

d **Northern Valley** – Pest control focussed on the Northern Valley main stream to provide for more intensive reductions in rats and possums in this area. This area will be monitored, but will not be subject to pest control targets.

~~d~~e **Northern Buffer** – A buffer zone of pest control on the forestry land to the north of the proposed landfill. Pest control via trapping will be undertaken as forestry activities allow, and will align with the existing control occurring in this area. This area of land will be monitored, but will not be subject to pest control targets.

~~e~~f ~~**Within**~~ **Sunnybrook Reserve** – Pest control for all target species to maintain populations at the identified management targets for each species within Sunnybrook Reserve.

~~f~~g The exclusion of farm stock within habitat for native fauna and areas of native vegetation within the Site.

The extent and location of the above areas are shown in Figure 4.1 – Location of EPAMP Pest Control Areas dated February 2022.

103 The EPAMP shall be prepared by a suitably qualified and experienced ecologist and set out the procedures to be implemented by the Consent Holder to achieve the objectives set out in condition 102, and, as a minimum, specify:

a Target pest species, pest reduction targets and target thresholds (including eradication within Wayby Valley Sanctuary) to be aimed for to achieve the objectives of the EPAMP.

b Methods to achieve target species outcomes, which will include descriptions of spatial configuration of bait lines and baiting and/or trapping details including types of baits/traps and frequency of baiting/servicing.

c A description of monitoring/surveillance proposed in accordance with standard accepted practice.

d The pest eradication shall commence within either of the pest exclusion fences once the mammalian pest exclusion fences have been constructed and shall be undertaken in accordance with the Pest Management Operational Plan (PMOP).

104 Pest control specified in the EPAMP shall commence one month prior to the Initial Construction Commencement Date. Subject to Condition 105A, ~~P~~pest control shall be undertaken in accordance with the EPAMP for the period set out in Condition 105 within:

a All native bush and wetland habitat that will remain on the Site, excluding that within the mammalian pest fenced Wayby Valley Sanctuary, after the project commences (approximately ~~[~~77.2~~]~~ ha);

b Approximately 17.82 ha of mature wattle forest that will remain on the Site that is not within the pest exclusion fenced Wayby Valley Sanctuary;

c Approximately ~~[~~48.76~~]~~ ha of terrestrial, wetland, riparian wetland and riparian stream restoration planting on the Site proposed as part of the Effects Management Package, excluding that planted within the mammalian pest fenced Wayby Valley Sanctuary;

d Approximately 21.4 ha of riparian habitat in the Northern Valley;

~~d~~e Approximately ~~[~~103.35~~]~~ ha of plantation pine forestry in the Site; and

~~e~~f Sunnybrook Scenic Reserve (154.5 ha).

The areal extent of pest control operations within Sunnybrook Reserve is to be confirmed following consultation with the Department of Conservation in relation to any permits required for works on their Reserve.

105 Pest control shall be undertaken in accordance with the EPAMP on an ongoing basis until such time as the Council and TWEC confirm~~s~~ pest control can cease. The Council and TWEC can only confirm pest control can cease where the pest species controlled are no longer present within a 40km radius of the Site. This confirmation may occur on a species by species basis for each of the species controlled in Table 6. The decision by Council and TWEC may be triggered by application of the Consent Holder with supporting evidence to verify the relevant pest species has been eradicated within a 40km radius of the site, or by the Council's internal review and reporting on pest species.

105A Pest control shall be undertaken in the Northern Valley area as identified in "*Northern Valley Additional Control*" dated 27 March 2024, Rev 1 until 31 December 2031.

106 [Deleted in 15 March 2023 version]

107 The Consent Holder shall ensure that the pest control management targets and management thresholds set out in Table 6 below, are met and sustained for the period specified in Condition 105. These targets will come into effect three years after commencement of the EPAMP to allow for control and monitoring infrastructure to be deployed across sites.

108 The management targets and the management thresholds for initiating additional controls set out in Table 6 below shall be reflected in the EPAMP.

Commented [RMcV23]: Amendment to include the riparian habitat in the Northern Valley

Commented [RMcV24]: New condition to clarify the time period for pest control in the Northern Valley

Table 6: Pest control targets within the Wayby Valley Sanctuary, WMNZ landholding and Sunnybrook Reserve which will apply three years after the commencement of the EPAMP.

Pest Species	Management Target	Threshold	Monitoring frequency
Following construction of Wayby Valley Sanctuary (within pest exclusion fence)			
All (rats, mice, weasels, stoats, ferrets, possums, cats, hedgehogs, rabbits, hares, goats, pigs, and deer)	All target species: 0% density	Any detection initiate control	Ongoing via advanced surveillance tools and cameras. Four times per year using a range of detection devices including but not limited to game cameras, waxtags, chew cards, tracking tunnels, kill and live capture traps. Monitoring must also occur immediately following events that could cause a breech, and following any suspected incursion.
On remainder of Waste Management land (excluding buffer and Northern Valley areas)			
Rats	<5% CCI (Sep – Feb), <10% CCI (Mar – Aug)	≥10% CCI (Sep – Feb), <15% CCI (Mar – Aug)	Before and after toxic control, and four monitors per year in February, May, August, and November
Possums	<5% CCI	≥10% CCI	
Stoats	<2 detections per 2000 CH(placeholder)[1]	>3 detections per 2000 CH(placeholder)[1]	
Ferrets	<2 detections per 2000 CH(placeholder)	>3 detections per 2000 CH(placeholder)[1]	
Feral cats	Same as threshold	>3 individual cat detections per 2000 CH	
Weasels	<2 detections per ~~1~~2000 CH (placeholder)	>3 detections per ~~1~~2000 CH	
Ungulates	Zero density	Any observation (incl. sign)	
Sunnybrook Reserve			
Mice	<5% TTI (year-round)	≥10% TTI (year-round)	
Rats	<5% TTI (year-round)	≥10% TTI (year-round)	Before and after toxic control, four monitors per year in
Possums	<5% CCI	≥10% CCI	
Stoats	<2 detections per 2000 CH (placeholder)	>3 detections per 2000 CH(placeholder)	

Commented [RMcV25]: Amendment of typos

Ferrets	<2 detections per 2000 CH(placeholder)	>3 detections per 2000 CH(placeholder)	February, May, August, and November
Weasels	<2 detections per ~~1~~2000 CH (placeholder)	>3 detections per ~~1~~2000 CH	
Feral cats	Same as threshold	>3 detections per 2000 CH	
Ungulates	Zero density	Any observation (incl. sign)	

Advice Notes:

- *The Chew Card Index (CCI) is a coarse index of pest mammal abundance, calculated as the mean percentage of chew lines with bite marks from the target species, using standard chew card methodology as laid out in the A1 Possum Population Monitoring protocols.*
- *National Pest Control Agencies (2015). A1 Possum Population Monitoring protocols: Using the Trap-catch, waxtag and chewcard methods. Wellington, NZ*
- *Camera Hours (CH) is a coarse index of pest animal abundance, calculated as the number of target species detections on camera per ~~1~~2000 camera trapping hours, as per the Interim DOC trail camera guide v1.1.0: Using camera traps to monitor feral cats, mustelids and rats. Note this index may change based on any new best practice guidelines released by DOC.*
- *Department of Conservation (2021). Interim DOC trail camera guide v1.1.0: Using camera traps to monitor feral cats, mustelids and rats. Specification prepared by Craig Gillies. Hamilton, New Zealand.*
- *Rodents – C.A Gillies and D Williams 'DOC Tracking tunnel guide v2.5.2: Using tracking tunnels to monitor rodents and mustelids' dated 2013*
- *Placeholders: Placeholders have been inserted for the target and threshold figures for stoats, ferrets, weasels and feral cats. These target figures will be retained if surveys find that pre-control densities of these species are higher than the target of threshold figures. If pre-control densities are lower than the target densities the target and threshold densities may be reduced if agreed to by Waste Management and the Department of Conservation.*

109 Pest populations shall be controlled to the targets specified in Table 6 above. Additional pest management will be required to meet targets if monitoring identifies that:

a A target has been exceeded on two consecutive monitoring occasions; or

b Pest populations have met or exceeded a threshold.

110 All monitoring data, including trap catch and bait consumption information, will be made available to the Council within three months of each monitoring survey.

Biodiversity outcome monitoring

110A The objective of the Biodiversity Outcome Monitoring and Adaptive Management Plan (BOMAMP) is to verify predicted net gain outcomes for the wetland and terrestrial biodiversity values affected by the project activities eventuate within stated timeframes, and to inform adaptive management or contingency requirements for the values specified in Table 7A.

110B The BOMAMP shall be prepared by a suitably qualified and experienced ecologist and set out the procedures to be implemented by the Consent Holder to achieve the objective set out in condition 110A and the requirements of Condition 111 – 112A.

111 The biodiversity indicators included below in Table 7 will be used to verify predicted net gain outcomes are achieved within the stated timeframes and to inform the adaptive management response or contingency requirements for biodiversity values in Table 7A.

Table 7: Biodiversity indicator to be monitored at impact residual effects management and reference sites

Bioindicator	Method
Vegetation and habitat data collection (March April)	
Vegetation	Vegetation photo points with photographs taken from the centre of the plot on a NW, NE, SW and SE bearing. The plot will be centred by corner stakes.
Native vegetation species richness	Composition of all seedlings > 30cm; saplings and trees > 2.5 cm Diameter at Breast Height (DBH) within 10 x 10 m vegetation plots to obtain mean native species richness per plot.
Native tree basal area	Measurement of all native trees (> 2.5 cm DBH) within 10 x 10 m vegetation plots to obtain a mean basal area per plot for each species
Native sapling and seedling and density	Sapling and seedling species composition (> 15 cm) density for each exotic and native species within 5 x 5 m subplots to obtain a mean basal area per plot for each species. Presence score for indigenous herbaceous species <15cm in the subplots.
Terrestrial bird data collection (March/April)	
Tūī	Standard 5-minute bird counts (Dawson and Bull 1975) with distance sampling (DOC 2000). Bird counts will be undertaken from the centre of the vegetation plots with two counts (one in November/December and another in March-April).
Kererū	Standard 5-minute bird counts + 5 minutes (Dawson and Bull 1975) with distance sampling (DOC 2000). Bird counts will be undertaken from the centre of the vegetation plots with two counts approximately (one in November/December and another in approximately one month apart in March-April).
Pipit	Standard 5-minute bird counts (Dawson and Bull 1975) with distance sampling (DOC 2000). Bird counts will be undertaken from the centre of the vegetation plots with two counts (one in November/December and another in approximately one month apart in March-April).
Hochstetters frog data collection (February – May)	
Main study	Monitoring to verify Net Gains associated with habitat enhancement (primarily pest management) shall be undertaken within the treatment areas specified in the HFMP including: — The impact sites (landfill footprint) — Pest eradication sites (within the pest exclusion fence) — Pest control sites (Sunnybrook Scenic Reserve and the Site) — Reference site (Dome Forest Stewardship Area – which is not subject to pest control). Baseline monitoring must be undertaken from mid-Feb to mid May for at least one year. If baseline monitoring is confined to a single year then a minimum of 60 sites per treatment shall be required (i.e. 240 monitoring sites total). Non-baseline monitoring must be undertaken for 35 years and on a 3-year rotational cycle such that all monitoring sites within

	a monitoring cycle are monitored once over a period of 3 years (excluding baseline monitoring). Monitoring sites must include double-observer counts within a 50m transect selected using a random stratified design. If the assigned 50m transect is not suitable then the monitoring site shall be reassigned to the nearest 50m. If the randomly selected 50m transect is not suitable then an alternative suitable 50m transect shall be randomly selected. Reporting on statistically analysed results and associated adaptive management recommendations is required at the completion of baseline monitoring and at completion of every 3-year monitoring cycle for a period of 35 years with results and raw data made available publicly.
Wetland vegetation and habitat data collection (March-April)	
Vegetation	Vegetation photo points with photographs taken from the centre of wetland monitoring plots on a NW, NE, SW and SE bearing. Plots will be centred by corner stakes.
Indigenous vegetation species richness (wetland 2A and 2B only)	Composition and indigenous species richness counts of all vegetation seedlings > 30 cm, saplings and trees > 2.5 cm DBH within the 10 x 10 m wetland vegetation plots to obtain mean native species richness per plot. Composition and indigenous species richness of all herbaceous vegetation within four 2 x 2 m subplots following standard Wetland Delineation Protocols (WDP) for herb stratum. Species richness will be averaged across the four subplots to generate a mean indigenous species richness measure for each 10 x 10 m wetland vegetation plot.
Indigenous dominance (all wetlands)	Relative abundance of indigenous plants within subplots based on averaging the four subplots within each 10 x 10 m plot
Wetland bird recording (October/November for Australasian bittern and February/March for fernbird and spotless crake)	
Threatened bird occupancy/ relative conspicuousness	Deployment of Acoustic Monitoring Devices (ABMs) targeted for Australasian bittern/matuku-hūrepo (yet to be detected); Call back surveys for fernbird/mātātā and spotless crake/ pūweto

112 Biodiversity monitoring and adaptive management reporting programme will be set out in the Biodiversity Outcome and Adaptive Management Plan and include:

a Baseline monitoring (Year 0) data collection at all terrestrial and wetland monitoring sites

b Monitoring undertaken on three-year rotational cycles commencing at Year 2. One third of all monitoring sites will be completed in each year during a given rotation with the monitoring sites selected randomly each year so that each monitoring site is visited 3 years apart. The monitoring rotations are as follows:

- Monitoring rotation one will occur between years 2 and 4
- Monitoring rotation two will occur between years 5 and 7
- Monitoring rotation three will occur between years 8 and 10
- Monitoring rotation four will occur between years 13 and 15

- Monitoring rotation five will occur between years 18 and 20
- Monitoring rotation six will occur between years 23 and 25
- Monitoring rotation seven will occur between years 28 and 30
- Monitoring rotation eight will occur between years 33 and 35.

c Within 60 days of baseline monitoring a progress report will be prepared by an ecologist and submitted to Council. This report shall contain interim targets for those monitoring biodiversity indicators set out in Tables 7. These interim targets shall be set at year 7 (for minimum net gain targets of 10 years specified in Table 7A) or year 17 (for minimum net gain targets of 20 years specified in Table 7A).

d An Interim Biodiversity Outcome Progress Report will be prepared by a suitably qualified and experienced ecologist and submitted to Council by the end of Years 7 and Year 17. The Interim Biodiversity Outcome Progress Report shall:

- Confirm whether the interim targets for terrestrial and wetland ecology in 112C above have been met.
- Where interim targets have not been met, the report shall detail the contingency and adaptive management measures enacted and monitored until the Initial Biodiversity Outcome Monitoring Report is submitted in Year 10 in accordance with condition 112(d). These measures may include, but are not limited to, those in Table 7A.

e At year 10, an initial Biodiversity Outcome Report will be prepared by an ecologist and submitted to Council. The Biodiversity Outcome Report shall:

- Confirm whether predicted likely Net Gain outcomes for terrestrial and wetland ecology have been demonstrably achieved by the specified year (in most instances 10 years). These predicted likely Net Gain outcomes relate to all monitoring biodiversity indicators set out in Tables 7 above.
- Where minimum Net Gain targets have not been demonstrably achieved at 10 years, implement on potential adaptive management or contingency measures to improve the likelihood that Net Gain outcomes will be achieved by 35 years at the latest.
- Report on the response of biodiversity to effects management measures including but not limited to the salvage and relocation (lizards only) and habitat restoration and enhancement measures.

f At year 20, a Net Gain status report will be prepared by an ecologist and submitted to Council. The 20 year Net Gain status report shall provide confirmation on Net Gain outcomes and/or provide recommendations for adaptive management/contingency measures and report on the response of biodiversity to effects management measures

g At year 35, a final Net Gain status report will be prepared by an ecologist and submitted to Council. The 35 year Net Gain status report shall confirm that Net Gain outcomes for terrestrial and wetland ecology have been demonstrably achieved and report on the response of biodiversity to effects management measures. If Net Gain outcomes have not been achieved by Year 35, then contingency measures must be enacted and monitored until Net Gain outcomes are verified in accordance with Condition 112A.

112A If minimum net gain targets as included in Table 7A below are not achieved, implementation of adaptive management responses will be required in accordance with Condition 115 and/or Condition 110(e). Potential adaptive management responses are included in Table 7A.

Table 7A: Biodiversity Net Gain Targets and potential adaptive management options (if required)

Bioindicator	Minimum Net Gain targets	Timeframe (years)	Potential Adaptive management and/or Net Loss compensation options
Terrestrial biodiversity values			

Indigenous vegetation species richness	A >1**0%** Net Gain in native species richness per plot relative to the baseline for seedlings and saplings	10	• • Extension of terrestrial native revegetation programme
Native tree basal area	A >1**0%** basal area Net Gain relative to basal area loss for the following native tree species within terrestrial revegetation sites within 20 years of REM	20	• Extension of terrestrial native revegetation programme
Seedling / sapling density	A >1**0%** increase in seedling and sapling density per plot within 10 years of REM	10	• Extension of terrestrial native revegetation programme •
Tūī **Kererū** **Pipit**	A >1**0%** increase in the relative abundance/ conspicuousness of each species based on standard five-minute bird counts (with distance sampling) within **10** years of REM	10	• Extension of terrestrial native revegetation programme • Ecologically appropriate translocations/trade-ups of nationally or regionally threatened bird species, e.g. North Island robin, whitehead, little spotted kiwi, tīeke (saddleback)
Hochstetter's frog	A **>10%** increase in the relative abundance/ conspicuousness of detected frogs within 50m stream reaches after 10 years (but > 10% increase in revegetated pasture streams after 20 years)	10 or 20 years	• Protection of Hochstetter's frog/habitat hotspots (i.e. bedrock cascade/waterfall complexes) within pine forestry on WMNZ land.
Wetland biodiversity values			
Indigenous wetland vegetation species richness (wetland 2A and 2B only)	A **>10%** indigenous species richness counts of seedlings, herbaceous vegetation and saplings within the 10m x 10m wetland vegetation plots	10	• Extension of wetland enrichment planting programme into select exotic dominated wetlands on the Site
Indigenous dominance of wetland plants (all wetlands)	A **>10% increase in** indigenous species dominance based on 10m x 10m vegetation plots within subplots based on averaging the four subplots within each 10m x 10m plot		
Fernbird/mātātā, Spotless crake/ pūweto;	10% increase in occupancy and observed calls during call back surveys	10	• Extension of wetland enrichment planting programme into select exotic dominated wetlands on the Site

114 If 80% canopy closure standard is not achieved after the fifth year, further monitoring reports must be provided every two (2) years thereafter until the standards are met.

115 Ten (10) years after the Landfill Commencement Date~~completion of construction~~, a report must be prepared by a suitably qualified ecologist, and submitted to Council to confirm whether net

gain outcomes for terrestrial and wetland ecology have been demonstrably achieved and/or are expected to be achieved in the timeframe specified with reference to the Biodiversity Offset Accounting Model (BOAM) and Biodiversity Compensation Model (BCM) decision support tools and Model Parameters Attributes included in Table 5, by the BOAM or to and set out any additional measures that must be implemented to achieve a net gain.

116 If the report required by Condition 115 does not confirm that net gain outcomes for terrestrial and wetland ecology are achieved, or expected to be achieved in the timeframe specified by the BOAM, the relevant sections of the EMP must be amended and certified by Council to set out any additional measures that are required to be implemented to demonstrate a net gain outcome for terrestrial and wetland ecology within thirty-five (35) years of the Landfill Commencement Date.

117 If the report required by Condition 115 does not confirm that net gain outcomes for terrestrial and wetland ecology are achieved, twenty-five (25) years after Landfill Commencement Date ~~completion of construction~~, a report must be prepared by a suitably qualified ecologist, in consultation with the Department of Conservation, and submitted to Council to confirm whether net gain outcomes for terrestrial and wetland ecology have been demonstrably achieved and/or are expected to be achieved in the timeframe specified with reference to the Biodiversity Offset Accounting Model (BOAM) and Biodiversity Compensation Model (BCM) decision support tools and Model Parameters, Attributes included in Table 7 for those parameters projected to achieve a net indigenous biological diversity gain within thirty-five (35) years by the BOAM.

118 If the report required by Condition 117 does not confirm that net gain outcomes for terrestrial and wetland ecology are achieved, or expected to be achieved in the timeframe specified by the BOAM, the relevant sections of the EMP must be amended and certified by council to set out any additional measures that are required to be implemented to demonstrate a net gain outcome for those parameters projected to achieve a net indigenous biological diversity gain within thirty-five (35) years. These additional measures will be established based on the Net Gain outcomes for terrestrial and wetland ecology as reported in Condition 117 above, to the satisfaction of Council, and may include, but are not limited to, the matters in Table 7A.

Monitoring requirements for long-tailed bats, Australian bittern and native lizards.

118AA The biodiversity indicators included below in Table 7B will be used to address specific research questions relating to the efficacy of the proposed restoration and habitat enhancement actions.

Table 7B: Biodiversity indicator to be monitored at impact residual effects management and reference sites

Bioindicator	Method
Long-tailed bat data collection (December – January)	
Long-tailed bat	Deployment of ABMs across selected survey areas prior to beginning the radio tracking programme to determine potential activity hot spots and appropriate tracking sites to inform the radio tracking programme under Condition 80A(h)~~at the same time of year every year to determine occupancy (presence/absence) and the number of bat passes/per night over a minimum 4-week period of fine weather~~. ~~Long-tailed bat monitoring design will be informed by a biostatistician to ensure it is statistically robust. Monitoring will cover a concise research question (such as when restored/replanted habitat such as the proposed Sanctuary becomes habitat over time) with the final design and monitoring plan to be completed in collaboration and agreement with bat experts for the Consent Holder, Council and DOC.~~

Commented [RMcV26]: Updates to reflect radio tracking programme

	Deployment of ABMs are to be conducted according to DOC best practice manual of conservation techniques for bats Version 1, 2012. Radio tracking will focus on gathering information on the roosting range and potential roost locations of the population of bats present on the Site. Radio tracking and the related acoustic monitoring to inform trapping efforts will be conducted for a minimum of three years, and a maximum of five years as described in Condition 80A(h). ~~The monitoring programme will be scientifically rigorous and published in a peer reviewed journal.~~ All data collected throughout the survey period will be published in the DOC database and made available publicly as soon as possible following ~~each~~ monitoring ~~season~~.
Australasian bittern data collection (October/November)	
Australasian bittern/matuku-hūrepo;	Monitored using ABMs around wetlands; however, no targets set due to data and data interpretation constraints
Lizard data collection (November – December)	
Native geckos	Deployment of a minimum of 300 Cell Foam Covers (CFCs) along transects, with a minimum of 100 CFCs in each treatment (i.e., within reference, pest control and pest eradication transects). CFCs will only be deployed onto trees > 20 cm DBH. and CFCs will be positioned a minimum of 10 m apart. Nocturnal Visual Encounter Surveys will be undertaken along lizard transects using standard methodologies. (Figure 18c)Information on detected geckos including species, Snout Vent Length, reproductive status, tail regeneration status, and photographs will be recorded in accordance with standard protocols set out in Lettink & Monks (2016).
Native skinks	Deployment of 520 double-stacked Artificial Cover Objects (ACOs) along lizard monitoring transects (ACOs total) (Figure 18c). ACOs will be deployed within suitable habitat in clusters of 5 at approximately 100 m intervals along transects. Within each cluster ACOs will be positioned a minimum of 5 m apart. ACOs will be numbered and marked with flagging tape and GPS coordinates recorded. Information on detected skinks will be recorded in accordance with standard protocols (Lettink & Monks 2016) including species, Snout Vent Length, reproductive status, tail regeneration status, and photographs taken.

Wetland Restoration Adaptive Management Plan

118A At least three months prior to Initial Construction Commencement Date, the Consent Holder shall prepare and submit to Council for certification, a Wetland Restoration Adaptive Management Plan (WRAMP) for Wetlands 2A and 2B. The objective of the WRAMP is to restore wetland biodiversity values and function; to monitor wetland hydrology and condition in Wetlands 2A and 2B to verify predicted net gain outcomes; and to inform adaptive management or contingency requirements.

118B All works on Site must comply with:

a Baseline and ongoing groundwater and surface water monitoring shall be undertaken in accordance with condition 118C to meet the following objectives:

- Identify temporal and spatial changes in groundwater and surface water (compared to pre-construction state).
- Confirm the appropriate wetland type(s) hydrology has been achieved.
- Provide data for development of appropriate targets and trigger levels to enable timely implementation of intervention measures (if required).

b Indicators and trigger levels shall be established from the baseline monitoring data in Condition 118C, to the satisfaction of the Council. Indicators and trigger levels shall be developed in relation to wetland groundwater and surface water levels, and wetland vegetation and condition.

c Contingency responses shall be enacted in response to exceedance of the indicators and trigger levels specified in (b) above. These responses may include, but are not limited to, the measures listed in 118C (f) below.

i. To achieve a hydrological regime (water levels and fluctuations) that can support the restoration of a functional wetland complex, the following measures shall be undertaken .
ii. The installation of subsoil drainage from the springs and seeps that will be covered by the stockpile and direction of a portion of the captured flow towards the wetland areas to help mitigate groundwater level fall.
iii. Installation of a surface irrigation system within the existing kahikatea swamp forest area to apply water when needed.
iv. Provision to irrigate wetland area 2A (once it is planted) if groundwater monitoring shows a fall below 1 metre of the surface or new plantings show signs of summer water-deficit stress.
v. Elevation of the invert height of the drain that flows along the western edge of wetland 2A and/or insertion of weirs along this section of drain to hold back water in this wetland area.
vi. Removal of the drain dredgings from alongside the drain that flows down the western edge of wetland 2A.

d The installation of subsoil drainage beneath the stockpile and diversion of groundwater.

118C The WRAMP shall be prepared by a suitably qualified and experienced ecologist and a suitably qualified and experienced hydrologist and set out the procedures to be implemented by the Consent Holder to ensure compliance with conditions 118A and 118B and include at least the following:

a Final design details of landfill features relating to Wetlands 2A and 2B.

b Pre-construction baseline monitoring data of the receiving environment for a minimum of period of 12 months, including:

- three-monthly (quarterly) monitoring of wetland groundwater and surface water levels, and
- Annual monitoring of wetland vegetation composition and condition.

c Ongoing monitoring regime for wetland groundwater and surface water hydrology and wetland vegetation condition. This regime shall include, but is not limited to, the following details:

- Frequency of monitoring
- Wetland vegetation dominance and prevalence tests
- The location, spatial representation and extent of monitoring sites to achieve the purpose and objective of the WRAMP with statistical confidence. The number and location of monitoring sites for hydrological monitoring shall be determined by a suitably qualified and experienced biostatistician and a suitably qualified and experienced hydrologist.

- Vegetation and habitat data collection will include, but not be limited to, the matters in Tables 7 Conditions 111 and 112A.

d Target habitat types and proportion/quanta of each in accordance with condition 96 (k) above.

e Indicators and trigger levels for changes in wetland hydrology and condition

f Contingency responses to be enacted in response to exceedance of the indicators and trigger levels specified in Condition 118C(e) above and the timing of these measures. Measures may include, but are not limited to:

- Surface irrigation within Wetland 2B.
- Irrigation of Wetland 2A.
- Elevation of the invert height of the drain that flows along the western edge of wetland 2A and/or insertion of weirs along this section of drain to hold back water in this wetland area.

g Reporting requirements and frequency of reporting.

Hochstetter's frog contingency measures

119 The Consent Holder shall undertake annual monitoring of frog abundance in areas of pest control and enhancement planting and at reference sites and submit the results to Council within four weeks of completion. If a statistically significant increase (>95% probability of exceeding a 10% Net Gain) in relative abundance of frogs is not achieved within 10 years within the proposed the Wayby Valley Sanctuary and sites proposed for mammalian pest control ~~site~~; and / or the colonisation of suitable revegetated stream habitats is not achieved within 35 years, the Consent Holder shall develop contingency measures. The measures shall be developed in consultation with Council and the Department of Conservation Amphibian Technical Advisory Group. Measures may include:

a The addition of a mouse control programme, including monitoring to quantify benefits coupled with applied research to provide evidence to the extent that mouse predate on frogs (based on frog DNA analysis within mouse stomachs); or

b Extension of duration of pest control efforts beyond the 35 years; or

c Protection in perpetuity of exotic forestry riparian margins surrounding identified Hochstetter's frog hotspots (stream cascade complexes) within the Consent Holder's landholdings (beyond those protected under Condition 56A above).

Stream Offset Works Plan

120 The objective of the Stream Offset Works Plan (SOWP) plan is to describe the principles by which the Consent Holder shall provide offset in the following 12 month period to achieve net gain in ecological function for residual adverse effects related to stream habitat loss associated with the project.

120A The SOWP shall be prepared by a suitably qualified and experienced person and set out methodologies and processes that will be used to achieve net gain of ecological function in accordance with the Stream Ecological Valuation (SEV): a method for assessing the ecological functions of Auckland streams (2011) for residual adverse effects of stream loss resulting from the project and not otherwise addressed within the Site. The SOWP provisions for stream restoration shall include the following:

a Overarching principles for the identification of restoration sites guided by offsetting principles within Appendix 8 of the AUP and Appendix 6 of the NPS-FM, and considering the use of geospatial freshwater tools (e.g. REC, FENZ) and site specific assessments as appropriate;

b Restoration sites shall be identified within the Te Awa o Hōteo catchment. In the event that sufficient sites cannot be identified within that catchment, sites will be identified within the Kaipara Moana catchment;

Commented [RMcV27]: Amendment from WM expert to identify what a statistically significant increase means

Commented [RMcV28]: Cross reference added to proposed protection of riparian margins in the Northern Valley

Commented [RMcV29]: To confirm approach with Court and parties regarding alternative preferred option put forward by the Court to provide funding for KMR projects. In the event funding is provided directly to KMR this Stream Offset Works Plan will be deleted.

c Process for the Consent Holder informing landowners within the Hōteo Catchment, including criteria for selection and process for consultation with TWEC, CLG, DOC and Kaipara Moana Remediation Programme to provide suggestions on restoration sites including to ensure alignment with other restoration being undertaken within the Kaipara catchment;

d The ecological values and function being achieved through the offset are the same or similar to those being lost;

e Overarching principles for the selection of sites, so that to the extent practicable, the enhancement provides for ecological benefits beyond the reach scale measured by the SEV method;

f Provisions to legally protect restored areas e.g. covenants including details on methods of protecting and monitoring native vegetation within the restored areas;

g Proposed ongoing maintenance of fencing and monitoring of fence functionality

h Provisions to exclude stock from any legally protected areas as identified under (f) and

i Reporting requirements.

121 The Consent Holder must provide a Stream Offset Works Report (SOWR) to Council for certification. This SOWR will be provided with every SOWP provided for certification after the Initial Construction Commencement Date. The SOWR will:

a Confirm what offset measures have been implemented in the previous year's SOWP;

b Describe the proposed offset to occur within the next planting season, including identification of offset site(s) for that next planting season;

c Describe the proposed enhancement (eg riparian planting, stream habitat creation, in-stream habitat enhancement, fencing and stream protection) for the offset sites, the purpose of which is to enhance the offset sites' condition;

d Provide the SEV and ECR calculations to demonstrate that net gain of ecological function will be achieved through the proposed enhancement measures and in what timeframe;

e Provide a site-specific assessment of the risk of stream bank erosion and the likely successful establishment of proposed riparian planting;

f Include details pertaining to the monitoring and maintenance plan for a period of five (5) years to ensure plant densities and 90% survival rate are maintained. Any plants that die should be replaced the following planting season. Replacement planting and planting maintenance shall continue beyond year 5 until 90% survival and canopy closure is achieved. The 5 year period shall commence once all the works describe within a SOWP have been completed; and

g Provide details regarding how offset sites shall be protected in perpetuity (where practicable) by land covenant or consent notice(s) or similar, placed on the subject area of the land's title and provide evidence that this protection is sufficient for the purpose of this consent.

h Provide details of the proposed monitoring of the offset site/s to achieve the ecological gains anticipated by the SEV and ECR calculations

i Results of monitoring undertaken in the previous year and as required by 121A

j Details of any Further Works that may be required resulting from 121A

121A The Consent Holder must undertake SEV monitoring (or alternative method appropriate to the offset measure proposed) of the offset sites, to ensure that the anticipated ecological gains specified in the SOWR are achieved. Monitoring shall be undertaken at intervals/a timeframe consistent with the ecological gains specified in the SOWR. If monitoring identifies that ecological gains are not achieved as per the SEV, ECR and timeframe specified in 121, then further measures must be implemented to either ensure that those gains are realised at that site, or further work undertaken to provide net gain of ecological function resulting from the project. The detail of this Further Work, must be submitted within the SOWR (121j)) and certified by Council prior to implementation

122 The Consent Holder shall have completed the stream offset works within fifteen (15) years following commencement of consent for all stream enhancement works outside of the Site, with no less than 2 kilometres per year to be completed (until such time as a net gain outcome can be demonstrated).

122A In accordance with Condition 93 the Consent Holder shall have completed all of the on-Site native stream offset works within five years following commencement of consent inside of the Site.

123 Prior to the Initial Construction Commencement Date, the Consent Holder shall provide the following information, to the satisfaction of the Council:

a Legally binding agreements with third-party landowners (eg, an agreement to be able to access and plant and to impose a covenant or easement) that, collectively confirms that the Consent Holder can access 50km of riparian stream margin within the Hōteo catchment and use that riparian margin for planting in satisfaction of conditions 120-121A of this consent; and

b Written confirmation from a suitably qualified ecologist that the land identified in (1) above is suitable for offset stream planting and would meet the requirements of conditions 120-121A of this consent. This consent condition is offered on an Augier basis.

123A Prior to the Initial Construction Commencement Date, the Consent Holder shall provide, on terms satisfactory to Auckland Council, a bond that is sufficient to fund the cost of the planting and maintenance (for a 5 year period of maintenance) of 50km of off-Site offset stream planting to a distance of 10m either side of each stream. The bond sum will be adjusted every 3 years to account for inflation, and will be reduced within one month of the SOWR being published in accordance with Condition 121 each year to reflect any planting and active management initiatives that has been completed in the previous year as recorded in that SOWR. For the avoidance of doubt this bond is additional to and separate to the bond identified in condition 4.

~~123AA Prior to the Initial Construction Commencement date, the Consent Holder shall be able to provide confirmation via a legal instrument to the satisfaction of the Council, that the North Valley main stream will be planted with riparian planting 10m either side and legally protected.~~

Commented [RMcV30]: This condition has been moved and edited in the general conditions section above.

Part D – Initial Site Construction Works

Advice Note: These conditions apply to the Site establishment and initial enabling works, as defined and described in the Assessment of Environmental Effects prepared by Tonkin + Taylor (May 2019), and includes all work required to be undertaken in order to prepare the landfill to accept waste. Once the landfill becomes operational, these conditions in Part A will no longer apply.

124 The Consent Holder shall notify Council of the Initial Construction Commencement Date at least 30 working days prior to the Initial Construction Commencement Date.

Construction Erosion and Sediment Control Plan

125 At least three months prior to the Initial Construction Commencement Date, the Consent Holder shall submit to Auckland Council for certification, an updated Construction Erosion and Sediment Control Plan (CESCP) for the Initial Site Construction Works, prepared in general accordance with the 'Construction Erosion and Sediment Control Plan' included in the Landfill Management Plan dated November 2020. The objective of the CESCP is to provide a framework of controls for the construction earthworks to avoid, remedy and/or mitigate the potential adverse effects on the receiving environment, including measures to ensure sediment generation is minimised and the works are conducted in accordance with best practice. The triggers, limits and standards set out within Conditions 145 shall be included within the CESCP for all works to comply with on Site.

Site Specific Erosion and Sediment Control Plans

126 Prior to the commencement of earthworks for each stage of the initial construction works, a Site Specific Erosion and Sediment Control Plan (SSESCP) shall be prepared by a suitably qualified person in general accordance with Auckland Council Guideline GD05, Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region, the CESCP and the Erosion and Sediment Control Adaptive Monitoring Plan (Condition 145).

127 The Consent Holder shall submit the SSESCP to Council at least 1 month prior to the commencement of that each stage of works. The purpose of the SSESCP is to set out the specific measures to be implemented during construction to minimise erosion and the discharge of sediment beyond the boundaries of the Site to receiving water bodies. The triggers, limits and standards set out within Conditions 139-145 shall be included within the SSESCP for all works to comply with on the Site.

128 The SSESCP shall include the following information as appropriate to the scale, location and type of earthworks:

a The location and total area of earthworks, including catchment boundaries and contour information;

b Details of construction methods to be employed, including timing and duration;

c The volume of earthworks. This is to include details of the volumes to be excavated, stockpiled, re-used and disposed of off-Site;

d The location of erosion controls of the types described in GD05 (e.g. perimeter control such as a clean water diversion bunds) and any other controls;

e The location of sediment controls of the types described in GD05 (e.g. silt fence along low point of the Site where surface water will discharge from the Site or around stockpile areas) and any other controls;

f Supporting calculations for erosion and sediment controls including updated Universal Soil Loss Equation (USLE) calculations and estimated sediment loads;

g Staging of the earthworks, including details of progressive stabilisation of exposed areas for each stage;

h Key responsibilities for implementing and maintaining the controls detailed in the SSESCP during the project;

i The location of Site entrance points and means to control tracking of dirt off-Site;

j The frequency and responsibility for monitoring the effectiveness of controls, downstream water quality, and the undertaking of any maintenance on controls;

k The details for decommissioning controls;

l Contingency plans in case of unexpected sediment discharges during works and to respond to extreme weather events;

m Detail of the location of erosion and sediment controls in relation to flood plains and how flood risk will be managed;

n Specific detail of how erosion and sediment controls will avoid adverse effects to vegetation where earthworks are located adjacent to and within the rootzone of SEA vegetation;

o Specific detail of how the outlets from erosion and sediment control devices will avoid adverse effects on in-stream bank erosion; and

p Drawings showing items a, c, d, e, i, m and n above.

129 Where potentially suitable habitat occurs downstream of a proposed erosion and sediment control device, an initial baseline survey for the presence of kakahi shall be undertaken. The results of this survey and a description of how the results have been accounted for in the design and location of the erosion and sediment control device(s), with the objective of avoiding or minimising adverse effects of sediment on kakahi habitats, shall be provided to Council as a sub-section of the relevant SSESCP.

Erosion and sediment controls certification and maintenance

130 Prior to any earthworks commencing within a works area for each specific stage, a certificate signed by an appropriately qualified and experienced person shall be submitted to Council, to certify that the erosion and sediment controls have been constructed in accordance with the certified SSESCP required by Condition 126. Certified controls shall include but not be limited to the sediment retention ponds, decanting earth bunds, clean and dirty water diversion bunds, stabilised construction entrances, silt fencing and super silt fencing. Information supplied if applicable, shall include:

a Contributing catchment area;

b Shape and capacity of structure (dimensions of structure);

c Position of inlets/outlets;

d Stabilisation of the structure; and

e A statement that the erosion and sediment control measures have been constructed in accordance with Auckland Council Guideline GD05; except where a higher standard is detailed in the documents referred to the CESCP and / or SSESCP required by Conditions 125 and 126, in which case the statement shall confirm that the higher standard has been constructed.

131 The sediment and erosion controls for each stage of the initial construction works shall be inspected on a regular basis, and within 24 hours after each 90th percentile rainstorm event (30 mm over 24 hours) that is likely to impair the function or performance of the control measure. A record shall be maintained of the date, time and extent of any inspection, maintenance and repair undertaken in association with this condition which shall be forward to Council on request.

132 Throughout the duration of the Initial Site Construction Works, the works shall be staged in a manner to meet the following criteria:

a The maximum area of earth exposed at any one time, must be no greater than:

i 11.5 hectares during years 1 and 2;

ii 6.7 hectares during year 3; and

iii 9.7 hectares during year 4 or any longer period that may be required to complete the Initial Site Construction Works.

b The Site and earthworks shall be progressively stabilised against erosion at all stages of the earthworks activity and shall be sequenced to minimise the discharge of sediment to surface water. Interim stabilisation measures may include:

i The use of waterproof covers, geotextiles, or mulching;

ii Top-soiling and grassing of otherwise bare areas of earth; or

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

Advice Note: It is recommended that you discuss any potential measures with the Council's monitoring officer who may be able to provide further guidance on the most appropriate approach to take. Please contact the Council for more details. Alternatively, please refer to Auckland Council Guidance Document GD05, Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region.

133 The Consent Holder may apply to Council to increase the exposed area limits in Condition 132 above, on preparation of the final SSESPs, or on analysis of the results of ongoing monitoring of erosion and sediment controls and the receiving environment required by the Erosion Sediment Control Adaptive Management Plan (ESCAMP) (referred to in condition 145). No increase in maximum exposed area shall be undertaken without the prior written approval of Council.

Advice Note: This condition is intended to provide some flexibility to the Consent Holder to ensure final earthworks methodologies and plans can be implemented, however, it is not expected that significant increases to exposed area would be approved and the Consent Holder should limit exposed area to the extent practicable to reduce adverse effects on the receiving environment.

134 Earthworks undertaken during the Initial Site Construction Works shall be managed to avoid deposition of earth, mud, dirt or other debris on any road or footpath resulting from earthworks activity on the subject site. In order to prevent sediment laden water entering waterways from the road, the following methods may be adopted to prevent or address discharges should they occur:

a Provision of a stabilised entry and exit(s) point for vehicles;

b Provision of wheel wash facilities;

c Ceasing of vehicle movement until materials are removed;

d Cleaning of road surfaces using street-sweepers;

e Silt and sediment traps; and

f Catchpit protection.

134A In the event that deposition described in Condition 134 does occur, it shall immediately be removed. In no instance shall roads or footpaths be washed down with water without appropriate erosion and sediment control measures in place to prevent contamination of the stormwater drainage system, watercourses or receiving waters.

135 The operational effectiveness and efficiency of all erosion and sediment control measures required by the SSESCPs provided in accordance with Condition 126, shall be maintained throughout the duration of any land disturbing activities associated with those activities, or until the site is permanently stabilised against erosion.

136 Erosion and sediment control measures for the Initial Site Construction Works shall be constructed and maintained in general accordance with Auckland Council Guidance Document GD05; Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region and any amendments to this document, except where a higher standard is detailed in the documents referred to in the consent conditions, in which case the higher standard shall apply.

137 Upon completion or abandonment of the Initial Site Construction Works on the subject site, all areas of bare earth shall be permanently stabilised against erosion to the satisfaction of the Council. Should the earthworks be completed or abandoned, bare areas of earth shall be permanently stabilised against erosion. Measures may include:

a The use of mulching;

b Top-soiling, grassing and mulching of otherwise bare areas of earth; or

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

Advice Note: The on-going monitoring of these measures is the responsibility of the Consent Holder. It is recommended that you discuss any potential measures with the Council's monitoring officer

who will guide you on the most appropriate approach to take. Please contact the Council for more details. Alternatively, please refer to Auckland Council Guidance Document GD05, Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region.

Seasonal Restrictions

138 No earthworks associated with the Initial Site Construction Works shall be undertaken between 01 May and 30 September in any year, without the prior written approval of Council. Revegetation/ stabilisation is to be completed by 30 April in accordance with measures detailed in GD05 and any amendments to this document.

Winter Earthworks shall only be considered for approval by the Council in any of the following scenarios:

a Completion of a specific earthworks area is required to prevent a specific risk or hazard which may result in sediment discharge, or harm to people or the environment if left un-completed;

b Where irregular climate conditions allow for earthworks to be completed throughout prolonged periods of dry weather; or

c Where an area of less than 2,500m^2 is proposed to be worked at any one time.

d In respect of a, b or c above, the Consent Holder shall also seek comment from the TWEC and provide that comment together with the Consent Holder's response to the Council as part of any request.

Construction Earthworks Design and Oversight

139 The investigation, final design, specification and construction of landfill and appurtenant structure earthworks shall be carried out or reviewed by a Chartered Professional Engineer practicing in geotechnical engineering or an Engineering New Zealand registered Professional Engineering Geologist.

140 A detailed construction methodology shall be prepared and included in the CEMP as required by Condition 66 to ensure that the proposed earthworks are staged and carried out in a manner that will not contribute to slope instability, and to ensure that subsoil drainage is installed beneath the lining system where appropriate and, as a minimum, shall extend beneath the entire length of the floor of the landfill in an east to west alignment.

141 Cut slopes shall be assessed by a Chartered Professional Engineer practicing in geotechnical engineering or an Engineering New Zealand registered Professional Engineering Geologist for the presence of adverse geological conditions including landslide deposits, geological faults and the groundwater seepage. A signed and dated record of each assessment shall be kept including a pictorial representation of the slope showing all relevant geotechnical and geological features, all unanticipated conditions, and including notes describing any recommended mitigation measures. This record shall be incorporated in the completion report (as required by Condition 144).

142 Prior to placement of the first layer of structural fill at each location the subgrade shall be assessed by a Chartered Professional Engineer practicing in geotechnical engineering or an Engineering New Zealand registered Professional Engineering Geologist for the presence of adverse geological conditions including landslide deposits, geological faults and groundwater seepage. A signed and dated record of each assessment shall be kept including a pictorial representation of the slope showing all relevant geotechnical and geological features, all unanticipated conditions, and including notes describing any recommended mitigation measures. This record shall be incorporated in the completion report (as required by Condition 144).

143 Structural fill shall be placed and tested in accordance with the requirements of the CEMP. The fill placement records and fill testing records shall be assessed by a Chartered Professional Engineer practicing in geotechnical engineering or an Engineering New Zealand registered Professional Engineering Geologist. A signed and dated record of each assessment shall be kept, including details of any non-conformances identified along with the remedial actions taken. This record shall be incorporated in the completion report (as required by Condition 144).

144 On satisfactory completion of earthworks, the Consent Holder shall submit a completion report and appropriate stability and suitability statements prepared by a Chartered Professional Engineer practicing in geotechnical engineering or Engineering New Zealand registered Professional Engineering Geologist.

Erosion and Sediment Control Adaptive Management Regime

145 At least three months prior to commencement of the Initial Site Construction Works, the Consent Holder shall prepare and submit to Council for certification, an Erosion and Sediment Control Adaptive Management Plan (ESCAMP) for all earthworks and streamworks which are to be undertaken throughout the full duration of consent including the Initial Site Construction Works and landfill operation. The ESCAMP shall address monitoring requirements and changes to management procedures in response to the results of monitoring, and shall include but is not limited to, the following details:

a Pre-construction baseline monitoring data of the receiving environment, including but not limited to:

i In-stream results for turbidity and/or total suspended solids (TSS) over a range of weather conditions/seasons (including as a minimum 12 months of continuous monitoring for turbidity and monthly grab samples of TSS at sites SW1A, SW2, SW3A and SW4A and in the Waitaraire Steam upstream and downstream of the confluence with the Tributary of the Waitaraire Stream) (see Condition 52).

ii description of sediment inputs, transport, substrate composition and embeddedness.

iii Macroinvertebrate, periphyton and sediment deposition quarterly for a minimum for 12 months at stream sites (see Condition 52A).

iv Sediment deposition for a minimum for 12 months at wetland sites (see Condition 52A).

b Weather forecasting and monitoring, including implementation of an on Site weather station with a telemetered system that provides txt and email notifications;

c Trigger levels for water quality, rainfall (actual and forecasted events), and macroinvertebrate community indices and sediment deposition;

d Ongoing monitoring and sampling regime for the receiving environment during construction,

v Including continuous turbidity and monthly grab TSS monitoring upstream and downstream of works within the Tributary of the Waitaraire Stream, within the Waitaraire Stream upstream and downstream of the confluence with the Tributary of the Waitaraire Stream and the Landfill Valley (see Condition 52);

vi Quarterly monitoring of Macroinvertebrate, periphyton, sediment deposition at stream sites upstream and downstream of works within the Waitaraire Stream and the Landfill Valley and downstream of the main stockpile in the Western -Block (see Condition 52A);

vii Monitoring of sediment deposition within wetland sites at Wayby Wetland South; Raupo Wetland and Wayby Wetland North (see Condition 52A).

e Ongoing monitoring and sampling regime for sediment retention devices including the incorporation of continuous turbidity and sampling at the inlet and outlet of devices;

f Management responses when a trigger level is exceeded, including the ability to reduce exposed area; and

g Reporting to Council.

No earthworks shall commence until certification has been received from the Council.

Advice Note: Turbidity results can be substituted providing a correlation between TSS and turbidity has been established. This correlation should be re-assessed every year due to changes in soil conditions.

146 All earthworks and streamworks must be undertaken in accordance with the ESCAMP (as referred to in Condition 145) and any subsequent revisions of the adaptive management plan certified by Council.

146A If Continuous Monitoring undertaken in accordance with Condition 145 shows that there is a more than 30% change in NTU between upstream and downstream (based on monitoring at sites SW3A and SW4A, SW2A and SW1A and upstream and downstream Waitaraire) the Consent Holder must:

a Within 24 hours undertake an investigation into the source of the exceedance including:

i a full audit of condition of control devices;

ii a site walkover of stabilised and unstabilised areas; and

iii what other sources are there (i.e. natural stream erosion, forestry activity).

b If the source of the exceedance is confirmed as being from the site, the Consent Holder shall implement measures to reduce sediment discharges to below the trigger as soon as practicable and no later than 48 hours from the exceedance.

146B If Routine Monitoring undertaken in accordance with Condition 145 shows that there is a:

a more than 20% increase in median site re-suspendable sediment; or

b more than 15% decrease in mean Quantitative Macroinvertebrate Community Index (QMCI); or

c more than 15% decline in median EPT (Ephemeroptera, Plecoptera, Trichoptera) taxa richness; or

d a~~n~~ measurable increase in wetland deposited sediment;

when compared to the comparative baseline data, the Consent Holder must:

e investigate the possible cause of the trigger being breached; and

f review and update the relevant SSESCP to identify if additional site controls are necessary; and

g identify any remedial or mitigation measures required to address the effect; and

h prepare a report summarising the outcome of e) to g) above.

The report must be prepared and submitted to Auckland Council with 30 days of the monitoring being completed.

146C If there is failure of an erosion and sediment control device that results in a discharge to the receiving environment occurring the Consent Holder shall:

a repair failure (as appropriate); and

b undertake an immediate visual inspection of affected reaches; and

c notify the Project Ecologist to undertake assessment of potential sediment deposition within affected reaches.

146D If the monitoring undertaken following an ESC device failure (condition 146C) shows that there is a:

a more than 20% increase in median visual sediment coverage; or

b more than 20% increase in median site re-suspendable sediment; or

c evidence of fresh sediment deposition in wetlands,

when compared to the comparative baseline data, the Consent Holder must identify site management responses and ecological mitigation measures required, as determined by the project Ecologist, including preparing a report describing the recommendations for further monitoring or mitigation. The report must be submitted to Auckland Council with 30 days of the event occurring.

147 Any proposed revisions to the ESCAMP must be submitted to the Council for written certification prior to formalising and implementing the revised ESCAMP.

148 An earthworks area that has been stabilised or reduced (through stabilisation) as a result of a trigger level exceedance as defined by and required by the ESCAMP (referenced in Condition 145 and any subsequent versions approved by the Council) may only be re-opened or increased on the written approval of the Council.

149 Council may request changes to the ESCAMP as a result of observed inefficiencies on site or identified within the site reporting, in order to address those inefficiencies. If such a request is made by the Council, the revised ESCAMP must be submitted to the Council within 5 working days of the request for written approval prior to implementation.

Advice Note: The ESCAMP is a live document and updates are expected to address unforeseen circumstances or changes in the earthworks methodology as the site responds though its adaptive monitoring regime to ensure sediment discharges are minimised and the potential for significant adverse effects are avoided.

150 Upon request by the Council, the Consent Holder must make available any monitoring results and data recorded in accordance with the ESCAMP.A report containing sampling and monitoring results may be requested by Council. This report is expected to contain the following details:

a The results of all monitoring within that period;

b A summary of receiving environment effects, including any ecological changes and subsequent ecological response; and

c A summary of any event trigger levels exceedance that occurred and any subsequent change of the AMP.

Construction Chemical Treatment Management Plan

151 Prior to the commencement of any earthworks at the Site, a Construction Chemical Treatment Management Plan (CCTMP) shall be submitted to Council for certification that details how all impoundment devices utilised throughout the Initial Site Construction Works will be treated. The plan shall include as a minimum:

a Specific design details of the chemical treatment system based on a rainfall activated methodology for the Site's sediment retention ponds and decanting earth bunds;

b Monitoring, maintenance (including post storm) and contingency programme (including a record sheet);

c Bench testing results;

d Details of optimum dosage (including assumptions);

e Results of initial chemical treatment trial;

f A spill contingency plan; and

g Details of the person or bodies that will hold responsibility for operation and maintenance of the chemical treatment system and the organisational structure which will support this system.

152 No earthworks for each stage of the Initial Site Construction Works shall commence until written certification for the CESCP, CCTMP and relevant SSESCP has been provided from Council as required by conditions 125, 151 and 126 respectively.

153 All decanting earth bunds, sediment retention ponds and any other authorised impoundment devices, shall be chemically treated in accordance with the approved Construction Chemical Treatment Management Plan (CCTMP) unless otherwise approved by Council. Any amendments to the CCTMP or approvals to not chemical treat where not practicable shall be submitted in writing to Council, for written certification prior to implementation.

Erosion and Sediment Control – Pre-Start meeting

154 Prior to the commencement of the Initial Site Construction Works, the Consent Holder shall hold a pre-start meeting for the earthworks activity that:

a Is located on the subject site;

b Is scheduled not less than five days before the anticipated commencement of earthworks;

c Is notified to TWEC not less than one week prior to the meeting to enable representation from TWEC, if they wish to attend;

d Includes Council; and

e Includes representation from the contractors who will undertake the works.

155 The meeting shall discuss the erosion and sediment control measures, the streamworks and earthworks methodologies, the adaptive management regime and shall ensure all relevant parties are aware of and familiar with the necessary conditions of this consent. The following information shall be made available at the pre-start meeting:

a Timeframes for key stages of the works authorised under this consent;

b Resource consent conditions;

c Construction Erosion and Sediment Control Plan;

d Site Specific Erosion and Sediment Control Plans;

e Construction Chemical Treatment Management Plan; and

f Erosion and Sediment Control Adaptive Management Plan.

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

Advice Note: To arrange the pre-start meeting please contact the Council to arrange this meeting on monitoring@aucklandcouncilgovt.nz, or 09 301 01 01. The conditions of consent should be discussed at this meeting. All additional information required by the Council should be provided 2 days prior to the meeting.

Sediment Balance

156A The Consent Holder shall monitor the site establishment sediment loads upon commencement of Initial Site ~~Establishment~~ Construction Works for a period of 10 years, and provide a Sediment Monitoring Report (SMR) annually to the Council for that period from the Initial Construction Commencement Date ~~date commencement of the Initial Site Establishment Works~~ and a final SMR 10 years later. ~~after the commencement of the Initial Site Establishment Works.~~ The SMRs must provide detail on the following matters:

a the Baseline Sediment Load;

b the Site Establishment Sediment Load based on flow and turbidity monitoring at the outlet of all sediment retention ponds and within the receiving environments where monitoring both upstream and downstream is undertaken (including the Landfill Valley and the tributary of the Waitaraire Stream);

c the On-going Operation Sediment Load based on flow and turbidity monitoring at the outlet of any Stormwater Ponds in the Landfill Valley and at the outlet of any Sediment Ponds for the Main Stockpile, the Clay Borrow Area and Topsoil Stockpiles;

d what works have been undertaken in that year to balance the Site Establishment Sediment Load and what reduction in sediment load those works are likely to achieve; and

e details of how reductions in sediment loads have been calculated in a transparent and consistent manner.

156AAA The sediment loads shall be calculated based on the following formula: Site Establishment Sediment Loads + On-going Operation Sediment Loads – reduction in sediment loads – Baseline Sediment Loads = Sediment balance Loads;

156AA A Sediment Balance Monitoring Plan (SBMP) must be prepared by a suitably qualified and experienced person. The objective of the SBMP is to provide a framework of how the Consent Holder will monitor and record overall sediment loads, that form the basis of data required by the SMRs. The SBMP must be submitted to Council for certification at least three months prior to the Initial Construction Commencement Date. ~~commencement date of the Initial Site Establishment Works~~

Advice Note: For the purpose of preparing the SBMP, a suitably qualified and experienced person means an environmental scientist or environmental engineer with expertise and experience in water quality and erosion and sediment control.

156AB The SBMP must include the following details:

a Location of flow and turbidity monitoring for sediment retention ponds and the receiving environments during Initial Site Construction Works ~~site establishment works~~.

b Location of flow and turbidity monitoring for the operation Sediment Load for Stormwater Ponds in the Landfill Valley and at the outlet of any Sediment Ponds for the Main Stockpile, the Clay Borrow Area and Topsoil Stockpiles.

c Rationale for how locations or devices have been selected for monitoring or where representative devices have been selected to measure sediment.

d How sediment load will be determined; establishing correlation between NTU (turbidity) and TSS (Total Suspended Solids) to quantify the amount of sediment load.

e Potential types of sediment reduction works that may be undertaken each year and how reductions will be quantified in a transparent and consistent manner

156B In the event that the final review required by Condition 156A results in a positive sediment balance. The Consent Holder must provide a Sediment Balance Plan (SBP) prepared by a suitably qualified and experienced person, to the Council for certification within two months following completion of the final SMR.

The SBP shall be provided to the TWEC and comment sought on the sediment balance proposal(s). All Sediment Balance Works must be undertaken in accordance with the certified SBP.

Advice Note: For the purpose of preparing the SBP, a suitably qualified and experienced person means an environmental scientist or environmental engineer and an Ecologist with expertise in the proposed sediment balance actions.

156C The SBP must include detail to address the following:

a Details of the proposed sediment balance actions (i.e. Type, location, and quantity). Priority should be given to reducing sediment on the Site through reductions in future sediment from operational discharges, and opportunities within the broader land holding such as bank or slope stabilisation or planting. The Consent Holder shall ensure any works proposed outside the Site have been consulted on with the Kaipara Remediation Programme to ensure alignment.

b Details to demonstrate how the proposed quantum of action has been calculated to ensure it adequately addresses the effects associated with the increase in sediment detailed in the final SMR.

c Methodologies to implement the proposed sediment balance actions to demonstrate that relevant best practice techniques are proposed (i.e. planting details and site preparation).

d Staging and timeframes for implementing the proposed sediment balance actions.

Finalised State Highway 1 intersection design

157 The access road intersection and roundabout shall be designed in accordance with the 'Integrated Traffic Assessment', prepared by Stantec, dated May 2019 as amended by subsequent section 92 responses, to the relevant standards as set out in NZ Transport Agency's Register of Network Standards and Guidelines ISBN 978-0-478-38032, and the design shall be subject to detailed design road safety audit in accordance with NZTA procedures.

158 The roundabout shall be subject to, and satisfy, NZTA road safety requirements, and shall be operational prior to the Landfill Commencement Date.

Construction Traffic

159 Subject to Condition 160, vehicles using Crowther Road for access to the Site during Initial Site Construction Works may only enter Crowther Road from State Highway 1 via a left-turn from the north and many only exit via a left-turn to the south.

160 Right turns in and out of Crowther Road for vehicles accessing the Site during Initial Site Construction Works will only be enabled where:

a All improvement works and / or vegetation clearance that may be identified as necessary by Waka Kotahi – NZ Transport Agency has been undertaken; and

b Waka Kotahi – NZ Transport Agency confirms in writing to Auckland Council that it is satisfied right turns in and out of Crowther Road by vehicles using Crowther Road for access to the Site during Initial Site Construction Works can be safely undertaken.

161 In the period of Monday to Friday during school terms, there shall be no heavy vehicle movements associated with the construction works authorised by this consent into or out of the Crowther Road intersection during the following times:

a Thirty (30) minutes before to ten (10) minutes after the school bus pick-up time in the morning (40 minutes in total), and;

b Twenty (20) minutes before to twenty (20) minutes after the school bus drop-off in the afternoon (40 minutes in total).

Advice Note: A heavy vehicle is defined as a vehicle which has a gross vehicle mass (GVM) of more than 3500 kilograms

161A In the period between 2.00 and 7.00pm on Friday afternoons that are immediately prior to a public holiday weekend, the Consent Holder shall have no more than one heavy vehicle movement associated with the construction works authorised by this consent into or out of the Crowther Road intersection.

Advice Note: A heavy vehicle is defined as a vehicle which has a gross vehicle mass (GVM) of more than 3500 kilograms.

Commented [RMcV31]: Condition in response to potential construction-related Friday afternoon traffic issues

162 A Construction Traffic Management Plan (CTMP) shall be prepared by a suitably qualified and experienced person in accordance with the NZTA Code of Practice for Temporary Traffic Management and after consultation with NZTA, addressing all construction and temporary works that involve access onto or across State Highway 1. The CTMP shall be in two parts being for works affecting State Highway 1 under the jurisdiction of NZTA and one being for works on public roads under the jurisdiction of Auckland Council / Auckland Transport. The objective of the CTMP is to provide a framework to be adopted by the Consent Holder to avoid, remedy or mitigate the adverse traffic and access effects of the construction works.

163 The CTMP shall include the following details:

a The Traffic Management Co-ordinator for the preliminary site earthworks and construction works phase;

b The proposed construction programme identifying the sequence and timing of construction phases;

c The traffic generating activities and vehicle types expected during the construction programme;

d Material/equipment source locations;

e Construction transport routes;

f Anticipated daily and peak hour traffic volumes for each construction phase;

g Driver and other contractor staff induction requirements and processes;

h Construction site access and parking arrangements;

i Details of specific Temporary Traffic Management Plans (TTMP) to be employed for each construction phase or stage of construction or those associated with specific pieces of larger or unique equipment moved to and from the ~~Project~~ Site;

j A communication plan for notifying residents of the local area and other members of the community who may be potentially affected by construction traffic of the nature, timing and duration of the different construction phases of the construction works, including noise mitigation options and their implementation;

k A complaints procedure for community members to report construction traffic issues; and

l A process for review and monitoring of the CTMP

164 The CTMP shall also include consideration of:

a Minimisation of the safety impacts and effects of construction activities on users of the SH 1 and public roads;

b Subject to Condition 161A, ~~M~~means by which the total number of truck movements to and from the construction activities could be minimised (e.g. back loading of departing vehicles) including specifically during Friday afternoons between October and April (and any other Friday afternoons immediately prior to a public holiday weekend) between 2.00 and 7.00pm;

c Subject to Condition 161A, ~~M~~means by which the movement of large machinery/items can be undertaken at times and in a manner which minimises effects on State Highway 1 users particularly during the Friday afternoon period (as defined in sub-clause (b) above;

d Timing and sequencing of any road closures that will be required and the nature and duration of any traffic management measures that will result, including any temporary restrictions, detours or diversions;

e Measures to minimise potential effects on other State Highway 1 and public road users and surrounding residents, particularly those residents located at 776 State Highway 1 and 762 State Highway 1 near the Crowther Road entrance;

f specific management for property access during periods of traffic disruption;

g Identification of public holidays and on the day immediately prior to public holiday weekends periods where movements of large trucks (longer than 10 m) shall be restricted;

h Provision for a Site Traffic Management Supervisor (STMS) when required; and

i Measures to be employed on-site which seek to minimise the effect of construction related vehicles on the adjoining transport network such as:

  i Variable start and end times for contractor staff;

  ii Shared transport arrangements for contractor staff; and

  iii Back-loading of earthmoving transporters.

Advice Note: If the NZTA Dome Valley Safety Improvements project is still underway at the time of works commencing under this consent, the CTMP shall include measures to co-ordinate and operate alongside the Safety Improvements project.

Commented [RMcV32]: Updates to reflect Court's comments around potential construction impacts at the intersection of Crowther Road

Construction lighting

165 Signage shall be installed within the Site requiring that when vehicle headlights are used, they shall be dipped (low beam) at all times.

166 Exterior lighting on buildings, structures and temporary lighting platforms (i.e. all exterior lighting other than vehicle mounted luminaires) shall be installed with zero upward tilt and produce no more than 1% direct upward light.

Construction noise

167 Noise from construction work undertaken on the Site shall comply with the requirements of Standard E25.6.27 of the AUP at the boundary of the Site. Construction noise shall be assessed in accordance with E25.6.1.

Commented [RMcV33]: Updated to reflect agreement from Waste Management that it will comply at the site boundary.

168 A Construction Noise and Vibration Management Plan (CNVMP) shall be prepared by a suitably qualified person. The objective of the CNVMP is to identify and clearly set out the Best Practicable Option for minimising the noise effects arising from the work and to ensure that the noise limits set by Condition 167 are complied with at all times.

169 The CNVMP shall address all aspects of the construction of the landfill and all associated infrastructure, roading, drainage, buildings, earthworks and structures necessary to complete the substantive construction phase prior to any waste being accepted.

170 The CNVMP must be implemented throughout the Initial Site Construction Works and expanded and updated as necessary, where there are changes to the work methodology or any other aspect that requires noise management but has not been addressed adequately.

171 The CNVMP shall include as a minimum the relevant measures from Appendix E of NZS 6803:1999 "Acoustics – Construction Noise". The CNVMP shall also include the following controls:

a No heavy vehicles associated with the landfill construction shall access the Site via the Crowther Road access prior to 0730 hrs;

b No construction materials or earthmoving plant delivered to the Site via the Crowther Road access prior to 0730 hrs;

c No construction or maintenance works on Crowther Road prior to 0730 hrs within 150 m of a residential dwelling;

d The CNVMP must set out the methods and procedures for monitoring and reporting on the noise emissions generated by the construction of the roundabout and upgrade of Crowther Road, in particular relating to noise emissions in proximity to 776 State Highway 1 and 762 State Highway 1 near Crowther Road. The CNVMP shall record that the objective of this monitoring is to clearly demonstrate to the Council that the noise generated by those works will be managed and monitored to ensure that it is consistently compliant with the noise limits set out in Condition 167, to a high degree of certainty; and

e The CNVMP must set out the methods and procedures for the design, firing and monitoring of any blasting undertaken on the Site. The CNVMP shall record that the objective of this section shall be to ensure that the air overpressure and vibration arising from any blasting is carefully designed to ensure compliance with the relevant standards in E25, and that monitoring of the noise and vibration of all blasts is conducted to demonstrate to the Council that compliance was achieved.

Commented [RMcV34]: Updates to reflect Court's comments around potential construction impacts at the intersection of Crowther Road

Dust

172 Discharges of dust from the Initial Site Construction Works shall not cause offensive or objectionable effects at any location beyond the boundary of the Site, in the opinion of a suitably qualified and experienced enforcement officer when assessed in compliance with the Good Practice Guide for Assessing and Managing Dust (Ministry for the Environment, 2016). The Consent Holder shall ensure that dust management at the Site complies with the this Good Practice Guide and minimises dust generation as far as practicable. This shall include having sufficient water to dampen exposed soil and unsealed areas, and/or other dust suppressing measures detailed by the CEMP (Condition 66), available as necessary.

Culvert design

173 Fish passage shall be provided through culverts in intermittent and permanent streams unless deemed unnecessary or impracticable by a suitably qualified freshwater ecologist, who has assessed the fish passage requirements in accordance with New Zealand Fish Passage Guidelines for structures up to 4 metres (NIWA, 2018). Where fish passage is deemed unnecessary or impractical, appropriate data and rationale for this decision shall be provided with the design drawings to Council for certification. This requirement does not apply to culverts entering or discharging from Ponds 1 to 5.

174 Culvert design for culverts within intermittent and permanent streams shall:

a Be designed to accommodate the 1 per cent annual exceedance probability flood without materially increasing flood levels upstream or downstream of the structure;

b Fish passage elements shall be informed by the 'New Zealand Fish Passage Guidelines for structures up to 4 metres' (NIWA, 2018); and

c Incorporate energy dissipation and erosion control to minimise the occurrence of bed scour and bank erosion in receiving environments.

Advice Note: Conditions 173 and 174 do not discharge the Consent Holders' responsibilities under any other Act.

Fish Passage

175 Within one (1) year of Initial Site Construction Works being completed, the existing identified fish passage barriers, shown on Figure 3 of the Assessment of Aquatic and Terrestrial: Ecological Values and Effects. Prepared by Tonkin & Taylor Ltd. Dated 30 May 2019 shall be remediated to provide fish passage unless deemed unnecessary or impractical by a suitably qualified freshwater ecologist,

who has assessed the fish passage requirements in general accordance with New Zealand Fish Passage Guidelines for structures up to 4 metres (NIWA, 2018). A Fish Passage Remediation Plan must be prepared and submitted to Council for certification prior to any remediation works taking place and, where fish passage is deemed unnecessary, impractical, or better ecological outcomes can be achieved by retaining the barrier, appropriate data and rationale for this decision shall be provided. Remediation design shall be informed by the 'New Zealand Fish Passage Guidelines for structures up to 4 metres' (NIWA, 2018).

176 The Consent Holder shall notify Council of the completion of the remediation actions within 20 working days of completion.

Kauri Dieback controls

177 Where works occur within a "kauri contamination zone" (defined as 3 x the radius of the canopy dripline of any kauri tree), all vegetation, soil, and other material from that zone must remain within the zone or be disposed of within a landfill.

178 All footwear, clothing, tools, vehicles and equipment used on Site within a kauri contamination zone must be cleaned of all soil, vegetation, or other material that has, or may have, come from a "kauri contamination zone" must be thoroughly washed with Sterigene (or other suitable agent) on entry and exit from the Site, on every occasion, to avoid the spread of kauri dieback (Phytophthora agathidicida).

179 The Main Stockpile and clay borrow access road shall be no closer than 10m from the trunk of any kauri tree.

Stormwater Pond Dams – Construction Quality Procedures

180 Construction Quality Procedures shall be in place prior to and throughout the construction of the stormwater pond dams to ensure the dams are constructed in accordance with the design and specifications. Construction quality control will be undertaken in general accordance with recommendations in Module 4 of the New Zealand Dam Safety Guidelines, 2015 (DSG), published by the New Zealand Society on Large Dams (NZSOLD) or as otherwise required by any building consent. All the testing and inspection records of dam construction shall be collected together at the time of completion and included in a dam construction completion report. Each dam construction completion report shall be made available to Council on request.

Advice Note: Condition 180 applies to permanent dams for Ponds 2 and 3 constructed during the initial construction; the excavation and associated outlet works for Pond 1 constructed during the initial construction; and the temporary dam for Pond 5 constructed as scheduled during the landfill operations period.

Dam Safety Management Plan

181 A Dam Safety Management Plan (DSMP) shall be submitted to Council for certification at least three months prior to waste being accepted at the Site. The DSMP shall be implemented and be in place for the duration of the consent.

Advice Note: If the dams are not decommissioned then new consents might be required in future for their continued operation.

182 The DSMP shall include procedures relating to governance, roles and responsibilities, operations, maintenance, surveillance, and emergency management to ensure that ongoing dam safety is managed in accordance with accepted practice.

183 The DSMP shall be designed to ensure the dams are well maintained, carefully monitored for any signs of distress, and that emergency management systems are in place to minimise the risk associated with any dam safety incident.

184 The DSMP shall be developed for the three dams (dams 2, 3 and 5) and include the elements recommended in Table 1 of Module 5 of the DSG. These are:

a Governance and responsibilities;

b Dam and reservoir operation, maintenance and surveillance. This includes appurtenant structures, such as valves and spillways, and includes regular intermediate and comprehensive dam safety reviews and special inspections following unusual events;

c Emergency preparedness;

d Identifying and managing dam safety issues; and

e Audits and reviews of the dam safety management system.

Advice Note: These conditions shall apply to both the construction and operational phases of the landfill.

184A The Consent Holder shall enter into a land covenant in favour of Auckland Council for the registered title which contains the three dams ~~[RT of land which contains dams]~~ within 6 months of the completion of construction of the three dams. The covenant shall:

a Require the dams are well maintained, carefully monitored for any signs of distress, and that emergency management systems are in place to minimise the risk associated with any dam safety incident in accordance with the latest version of the DSMP and until the dams are decommissioned;

b Be drafted and submitted to the Council's nominated Solicitor for certification at the Consent Holder's cost;

c Be registered against the Computer Register(s) (records(s) of title) to the affected land by the Consent Holder at their cost; and

d Require the Land Owner ~~of [RT of land]~~ to:

- Be responsible for all legal fees, disbursements and other expenses incurred by the Council in connection with the covenant; and
- Reimburse the Council for costs, fees, disbursements and other expenses incurred by the Council as a direct or indirect result of the council being a party to this covenant.

Part E – Landfill Operations

185 The Consent Holder shall notify Council of the Landfill Commencement Date at least 30 working days prior to the Landfill Commencement Date

Hours of operation

186 Except as otherwise provided for in these conditions of consent, the hours of operation shall be:

a 5.00am to 10.00pm for the working face on all days. Operation of the working face includes all tipping operations and daily opening and closing works that involve the use of landfill machinery, including machinery used to remove or place daily cover, but does not include the bin exchange area;

b 24 hours a day, 7 days a week for the bin exchange area;

c 7.00am to 8.00pm Monday to Saturday for stockpiles and borrow areas outside of the landfill valley, with the exception of Main Stockpile and the clay borrow area, where between September to December works are to occur from one hour after sunrise to one hour before sunset Monday to Saturday. Outside of these months, the hours of operation will be 7.00am to 8.00pm Monday to Saturday;

d 6.00am to 8.00pm Monday to Sunday for seasonal construction, and up until 10pm during summer for placement of GCL and HDPE geomembrane; and

e 24 hours a day, 7 days a week for maintenance of plant and machinery.

Site access

187 The landfill, including the bin exchange area, shall not be open to the public.

188 Entrance gates across the access road to the landfill shall be provided and closed outside the specified hours of operation.

189 There shall be no queuing of vehicles accessing the Site from the main Site entrance out on to State Highway 1 at any time.

190 Signage for the landfill at the entrance of the landholding shall meet the NZTA 'Signs on State Highways' Bylaw requirements and be designed and located to be as visually discrete as practicable in order to avoid visually dominating the localised landscape in the vicinity of the landfill entrance.

Waste Placement

191 Waste placement shall include the following measures:

a The working surface of the daily waste cell shall be kept to a practicable minimum, and shall not exceed 80 metres by 80 metres (excluding the open area of any inert material);

b Daily cover shall be removed by cutting windows through the previous layer of daily cover before waste placement at the start of each day, to avoid impermeable layers of soil remaining within the waste; and

c Stormwater diversion bunds shall be formed to prevent surface stormwater running into the current working face.

191A During commissioning of a new cell, until waste placement has been completed over half of the lining system area of that new cell, the stormwater catchment discharging to the leachate system shall not exceed 1 ha.

192 The final height of the surface of the landfill cap, after settlement of the waste has occurred, shall be a maximum of 205mRL.

92A Stormwater diversion bunds will be in place to prevent surface stormwater running into the working face. In the event that stormwater comes into contact with the working face, that stormwater will be treated as leachate and will be treated accordingly. (See Conditions 320, 387 and 388).

Daily cover

193 Daily cover shall be placed over the entire working face (excluding areas of inert waste) by the end of each operating day and no waste shall remain exposed overnight. Daily cover shall be soil cover of at least 150 mm thickness but may also be a non-soil alternative where it can be demonstrated that this would achieve a comparable level of control with respect to air discharges, vermin, birds, litter, and visual effects. An equivalent alternative daily cover material and thickness may be used only with the prior written certification of Council.

194 Any landfill area containing deposited waste where further waste placement is not planned to occur for a period greater than 12 weeks shall have 'thickened interim cover' applied to a minimum thickness of 300 mm (including the thickness of daily cover) as soon as practicable but no later than 12 weeks after the waste was deposited, excluding in the winter months from May to September, in which case 'thickened interim cover' shall be applied as soon as practicable, but no later than 6 months. The thickened interim cover shall be soil and shall completely cover all waste.

195 Intermediate cover shall be applied to any landfill area containing deposited waste where further waste placement is not planned to occur for a period greater than 12 months. The combined thickness of daily cover, interim cover (if any) and intermediate cover shall comprise soil applied to a combined minimum depth of 450 mm after compaction and be free from cracks or defects

196 Final cover shall be applied to cap the landfill. The final cover shall include at least 600 mm of compacted low permeability soil (in addition to daily, thickened interim and intermediate cover), achieving a hydraulic conductivity of 10-7m/s or less, and shall be free from cracks or defects.

Litter

197 Effective procedures shall be implemented to control litter. In particular the following measures shall be taken:

a Best practicable options shall be used in the vicinity of the working face in order to control windblown litter;

b Weekly patrols shall be conducted to identify and pick up wind-blown litter within the landholding, including the Site entrance; and

c Any trucks delivering waste to the landfill shall be covered if there is any potential for litter leaving the trailer.

198 Waste shall be transported to the landfill as follows:

a In fully enclosed bins if being delivered to the bin exchange area; or

b In covered loads where delivered directly to the working face, if the waste may create dust or release windblown debris;

Materials that are non-dusty and non-odorous are not required to be covered but shall be contained within the truck/trailer

Lining System

199 The lining system for the landfill on both the base and side slopes shall, as a minimum, comprise one of the following two lining systems:

a Type 1 Lining system (from top to bottom):

i 300 mm layer of leachate drainage material;

ii Protection geotextile;

iii 1.5 mm HDPE geomembrane; and

iv 600 mm compacted soil (clay) with a coefficient of permeability $k < 1 \times 10^{-9}$ m/s.

b Or Type 2 lining system:

i 300 mm layer of leachate drainage material;

ii Protection geotextile;

iii 1.5 mm HDPE geomembrane;

iv Geosynthetic clay liner (GCL); and

v 600 mm compacted soil with a coefficient of permeability $k < 1 \times 10^{-8}$ m/s.

200 The Consent Holder may use alternative lining and leachate drainage systems demonstrated to provide equivalent or better performance compared with the specified systems. Use of an alternative lining system shall be subject to prior written approval of the Peer Review Panel and Council.

201 Where the bottom of the lining system is less than 2 m vertically above fractured bedrock, the subgrade will be sub excavated and replaced with compacted inorganic soil with a coefficient of permeability $k < 1 \times 10^{-8}$ m/s to provide an additional attenuation layer of a minimum 2 m thickness.

202 The specification for the selection, placement, compaction and testing of the lining soil/clay shall be presented to Council, prior to the first lining clay being placed, for review and approval as part of the Landfill Management Plan (Condition 356). All lining soil/clay shall meet the requirements of the approved specification.

202A The selection and placement of the first layer of waste within any new landfill cell shall compromise softer waste to avoid damage to the lining system.

203 A Type 2 lining system shall be used on the base of the landfill and on sidewalls up to the first bench.

204 The selected GCL and geomembrane shall meet the requirements of the GRI Standards GCL3 and GM13.

205 Except in the sumps, the leachate drainage system shall be designed to achieve a leachate head not in excess of 300 mm at any point above the geomembrane

206 The depth of leachate above the liner at the lowest point of the landfill shall be measured either continuously or daily. Where a sump is present at the low point, the level shall be measured above the liner within 5 m of the top of the sump. Should the level exceed 300 mm for more than 7 consecutive days the Consent Holder shall notify Council and take immediate steps to reduce the leachate level. The Consent Holder shall report to Council daily, advising the leachate level and the action being taken until the level has returned to less than 300 mm above the liner.

207 An additional HDPE geomembrane shall be provided beneath the GCL of the Type 2 lining system within the leachate sumps.

208 Following an earthquake event that is likely to have resulted in peak ground acceleration of equal to or greater than 0.19g in the vicinity of the Site, a review of the lining system shall be prepared by a suitably qualified landfill engineer to confirm the performance of the geomembrane is not compromised and will be submitted to Council.

208A Following an event which results in slips or slumps that have the potential to impact on the lining system, a review of the lining system shall be prepared by a suitably qualified landfill engineer to confirm the performance of the geomembrane and stormwater systems is not compromised and will be submitted to Council. This shall be completed within a timeframe agreed with the Council, but shall be no longer than [4] weeks for the initial report.

209 The Consent Holder shall retain an independent testing organisation approved by the PRP to monitor the construction of the lining system including the subgrade and to undertake quality assurance (QA) of all components of the lining system and their installation. QA shall include oversight of the testing undertaken by the contractor, regular observation of lining

system placement and testing, and a review of all quality control documentation produced by the supplier and contractor.

210 On completion of each stage of lining system installation, a report shall be prepared by the independent testing organisation and shall include all of the test results, a description of the observations undertaken and certification that the lining system had been installed in accordance with the specification. This report shall be submitted to the Peer Review Panel (see Condition 212) who will make recommendations to Council on whether the lining system has been installed in accordance with the specifications. The Consent Holder shall obtain approval from Council of each stage of lining system construction prior to any waste being placed in the area.

211 Leachate storage and management facilities shall be designed for a capacity 50% greater than the calculated (as calibrated against the previous year's results) maximum leachate volume produced over a three day period for any stage of operation of the landfill. To demonstrate compliance with this condition, the calculated maximum leachate volume and the leachate storage and management facilities shall be described in the LMP, which is updated from time to time.

Peer Review Panel

212 The Consent Holder shall, at least one month prior to the Initial Site Construction Works, establish and maintain a Peer Review Panel (PRP) at its cost. The objective and scope of the PRP is as described in Table 8 below.

Table 8: Objective and scope of the PRP

Activity	PRP Scope
Applicable Land titles	~~{Titles to be inserted of consent holder landholdings}~~Relevant titles for the Site.
Inclusions	Includes activities described in this table that take place within the applicable land titles and fall under the Resource Management Act 1991. Includes administrative activities related to the landfill's resource consents that may take place off the land e.g. meetings and liaison.
Exclusions	Excludes review of any work not directly related to landfill, in or on: • Sunnybrook Reserve; • Dome Forest; • Off-Site ecological enhancement sites; • Land outside the Landfill ~~Precinct~~; • Legal roads inside the Landfill ~~Precinct~~; • Buildings inside the Landfill ~~Precinct~~ subject to Building Consents (other than dams); • Renewable energy centre~~;~~ • ~~Airfield on Springhill farm~~; and • Exotic forestry. Excludes: • Landfill gas treatment plant and leachate treatment plant electrical and mechanical

	processes and controls (matters under other legislation); and • Greenhouse gas capture, destruction and reporting (matter for EPA). Excludes review of any activity that: • Falls under the Health and Safety at Work Act 2015; and • Falls under the Building Act 2004 (other than dams).
Membership	• The Consent Holder selects, invites and seeks agreement of potential individual members to join the PRP, requests approval by Council, and upon Council approval engages the members (one member shall be nominated by the TWEC). • The PRP and Consent Holder jointly share responsibility for current terms of engagement. • The PRP may at its discretion and reasonable cost co-opt or commission expertise outside of their own in order to fulfil the PRP's function.
Landfill management	Review of the range of knowledge and experience of staff appointed by Consent Holder to the two principal positions of responsibility i.e. for construction management and Site operations management, and to provide that review to WMNZ and the Council.
Six-monthly report	Topics to be covered include: • PRP membership and deliberations; • Matters reviewed and reported; • Approvals given; • Geotechnical investigations; • Engineering final design; • Construction activity; • Construction quality assurance; • Lining system performance; • Waste pile stability; • Land movement and stability; • Waste containment; • Leachate containment, levels and collection; • Leachate handling and disposal on Site; • Landfill gas capture; • Landfill gas reticulation to treatment plant; • Air discharges; • Landfill gas monitoring of fugitive emissions and subsurface migration;

	• Odour; • Groundwater and surface water quality; • Final cap placement and testing; • Any dumping of hazardous waste; and • Failures, fires and damage relating to any above topic, and response by Consent Holder.
Monthly reports	Review and feedback to Consent Holder on monthly reports and information packages provided by Consent Holder so that the PRP may address in a timely way any of the topics listed for the six-monthly reports.
Seasonal construction design including lining system	• Review and approval of final design of each phase in accordance with the consented concept design (which may include correspondence with and amendments by Consent Holder before completing final design). • Review and approval of any more than minor modifications to the consented concept design. • Copies of final approvals sent direct to Council.
Seasonal construction in progress including lining system	Oversight of general phase construction and lining system construction activity in progress and quality assurance in progress as required to support approval at completion of each construction phase prior to waste placement.
Seasonal construction completion including lining system	• Review of construction and quality assurance records collated by the QA organisation upon completion of each phase. • Approval of each phase of construction as 'fit-for-purpose' and approval of each phase lining system upon completion as 'in accordance with design and design intent'. • Review of subgrade inspection reports by the independent QA organisation and the designer's representative. • Submission of PRP final approvals direct to Council at completion of each construction and lining phase prior to waste placement.
Independent QA testing	• Review and advice on the suitability of the QA testing organisation retained or proposed to be retained by WMNZ. • Review and approval in advance of the arrangements for independent QA testing to achieve the designer's specifications (such arrangements to include independent geotechnical testing, land surveying set-out and

	as-built, and independent engineering oversight).
Waste mass	Review and advice on any matter related to or influencing waste pile land stability which may include but not be limited to: waste composition; waste moisture; leachate levels; leachate generation; stormwater infiltration controls; cover and capping; settlement; waste placement methods; and waste layout and sequence insofar as it relates to stress on the lining system and slope stability.
Auckland Council	Provision of regular reports described in this table. Response to inquiries from Council seeking clarification on matters within the PRP's scope.
Community Liaison Group	• Provision of a personal point of contact for the CLG. • Response to specific inquiries direct from the CLG. • Attendance of a PRP representative at the CLG meeting following each of the PRP's six-monthly reports. • Review and feedback on complaints.
Landfill Management Plan	• Review and approval of the overall LMP (which may include correspondence with and amendments by WMNZ prior to finalising), excluding these Management Plans: Transitional Facility Biosecurity; Ecological Mitigation Plan; Ecological Residual Effects Management Plan; Stream Offset Works and • Advice on the PRP's own recommendations for amendments to the LMP.
Leachate recirculation	Approval of the areas, procedures and volumes for the disposal of leachate into the landfill.
Technical review	• Any technical review requested by Consent Holder that relates to the landfill. • Advice upon request from Consent Holder or Council on how landfill operations on Site within the PRP scope may contribute to compliance on matters outside the PRP scope.
Meetings	• Meeting with Consent Holder at such frequency as the PRP reasonably consider necessary to discharge their functions, but not less than three times in any calendar year unless specifically agreed by both parties.

	• Setting agenda that accommodate discussion on any matter within the scope of the PRP.

213 The PRP shall consist of a maximum of five members and a minimum of three members. The PRP members must be employed independently from the Consent Holder and must have appropriate experience and qualifications in landfill design and management, as certified by Council. All members are to be appointed by the Consent Holder following consultation between the Consent Holder, TWEC and Council. One of the members is to be nominated by TWEC.

214 The Consent Holder shall provide a report from the PRP at six monthly intervals ending 31 March and 30 September each year to the Council, summarising the matters listed under "Six Monthly Report" in Table 8 above.

215 The Consent Holder shall ensure that records are kept of any site investigations for any works and the results of all monitoring tests associated with all consents granted for the landfill operation subject to the exclusions in Table 8 above and that these records are forwarded monthly to the PRP

Waste Acceptance

216 Material accepted into the landfill shall be limited to non-hazardous commercial wastes, non-hazardous industrial wastes, residential wastes, construction and demolition debris, contaminated soils, sludges from wastewater treatment plants with a solids content greater than 20% and Site-generated sludges. Wastewater treatment plant sludges with a solids content less than 20% may be accepted if the chemical and physical stabilisation processes ensure that the sludges contain no free liquids as determined by the paint filter test at the point of loading into trucks going direct to the landfill.

217 Material accepted into the landfill must meet the Waste Acceptance Criteria set out in the Landfill Management Plan which includes the list of prohibited waste as defined in [Technical Guidelines for Disposal to Land, Waste Management Institute of New Zealand, August 2018]. Any waste not meeting these criteria shall not be accepted for disposal at the landfill.

218 The Consent Holder must keep sufficient records to show that any waste accepted for disposal meets the Waste Acceptance Criteria.

219 The Consent Holder shall conduct a survey of the types of waste received by the landfill in accordance with the Solid Waste Analysis Protocol (Ministry for the Environment, 2002) over a period of not less than five (5) working days, every five years. The results of this survey shall be forwarded to Council within three months.

220 The Consent Holder shall commission an independent review of the Waste Acceptance Criteria specified in the Landfill Management Plan (Condition 356) every 5 years. The purpose of this review is to consider whether any additional Waste Acceptance Criteria should be added or if existing criteria should be adjusted to account for emerging contaminants or updated regulatory requirements. The results and conclusions, along with any recommended changes to the waste acceptance criteria shall be provided to Council within three months for their review and certification and to support any proposed change to the Landfill Management Plan. Any recommended changes to the Waste Acceptance Criteria shall be incorporated into the Landfill Management Plan as part of the next annual review.

221 Leachate, condensate and Site-generated sludges from the operation of any leachate evaporator unit, cesspits and drains, and landfill gas reticulation system on the Site may also be disposed of into the landfill in areas and by procedures and within volumes and/or weight limits approved by Council and described in the LMP required by Condition 356.

222 If any waste load is rejected at the gatehouse or at the working face because it is hazardous, then Consent Holder shall notify Council within 2 working days including details of the generator and transporter of that hazardous waste.

223 Pre-acceptance testing is required for all special wastes and likely contaminated soils whose contaminant concentrations are not known, with the exception of up to 100m^3 of soil from any site up to 2000m^2 where that site is a discrete development site, where the only Hazardous Activities and Industries List (HAIL) activity is historical horticulture, provided the source site was only ever part of broad-acre pesticide application, where pre-acceptance testing shall be at the discretion of the Consent Holder. The Consent Holder shall ensure that disposers provide appropriate evidence to demonstrate that the source site was only ever used for broad-acre horticultural activity in accordance with the process described in the Landfill Management Plan.

224 Pre-acceptance testing for special wastes shall comprise at least 1 sample tested for the Toxicity Characteristic Leaching Procedure (TCLP) concentrations of the key contaminants of concern associated with that waste. If total concentrations are used instead of TCLP, then at least 1 sample shall be tested for the total concentrations of the key contaminants of concern associated with that waste. If total concentrations exceed the Total Concentration Value (TCV), then TCLP testing must be done. The method for determining sampling density must be set out in the Landfill Management Plan.

225 If there are no TCLP limits for the contaminants of concern in a waste, then acceptance of the waste will be based on the case-by-case assessment process described in the Landfill Management Plan.

226 The requirements for TCLP testing are:

a The testing must be done by an accredited laboratory;

b The sample must represent the material; and

c The sampling programme design shall be aimed at finding worst-case or average concentrations.

227A The Consent Holder will accept up to 50,000 tonnes of waste recovered from old, historic dumps within the Kaipara catchment for containment within the landfill at no cost, provided that:

a The Consent Holder will not be responsible for the retrieval or costs of retrieval of any waste from old dumps;

b The Consent Holder may not accept waste where it will be required to meet the costs of any levies, fees or other charges required for the disposal of this waste under the Waste Minimisation Act 2008 or any subsequent legislation requiring levies, fees or charges to be paid for the disposal of waste; and

c The waste meets the standards for waste acceptance included at conditions 216 – 227A above and as expressed in the Landfill Management Plan per condition 356. The Consent Holder will keep records of any waste accepted under this condition, and ensure it meets the reporting requirements to Council for the acceptance of this waste.

Acceptance of waste from outside New Zealand or from south of Auckland Region

227B In addition to other waste acceptance criteria provided for in these conditions, the Consent Holder shall not accept waste:

a From outside of New Zealand permitted under the Waigani Convention unless the Consent Holder has agreed a protocol for accepting such waste with the TWEC, and accepts such waste only in accordance with the terms of that protocol.

b From south of the Auckland Region unless either the taking of such waste is necessary to respond to a natural or man made disaster that generates significant volumes of waste requiring disposal or if Hampton Downs landfill is unable to accept waste.

Operational noise

227C If trucks accessing the bin exchange area between 7pm-7am are fitted with reversing alarms, then the alarms shall be to be fitted with a broadband reverse alarms. In addition, mufflers

should be fitted on vehicles where practicable, and no horns shall be used at the bin exchange area during this period.

228 The cumulative noise from all operational activities operating on the Site shall comply with the following Noise Rating Levels when measured and assessed at any Notional Boundary (as defined in Chapter J of the AUP):

Time period	Noise limit
0700 – 2200 hours Monday to Saturday 0900 - 1800 hours Sunday	55 dB LAeq
At all other times	40 dB LAeq and 75 dB L_{AFmax} at any Notional Boundary more than 300m away from the centreline of State Highway 1 45 dB LAeq and 75 dB L_{AFmax} at any Notional Boundary up to 300m from the centreline of State Highway 1.

Commented [RMcV35]: WM's expert considers WM will not be able comply with the noise limits at the site boundary in respect of the bin park's operations adjacent to the State Highway as advised in its memorandum dated 9 February 2024. WM is happy for relevant acoustic consultants to conference on this topic.

229 Noise levels shall be measured and assessed in accordance with New Zealand Standards NZS 6801:2008 "Acoustics - Measurement of Environmental Sound" and NZS 6802:2008 "Acoustics - Environmental Noise".

230 The Consent Holder shall undertake a series of noise level measurements as set out below. The purpose of the measurements is to demonstrate whether the noise levels arising from activities authorised by this consent are compliant with the maximum permitted noise levels set out in those conditions. The noise measurements shall be carried out:

a Within one month after the commencement of operation of:

i The Working Face;

ii The Clay Borrow Area;

iii Main Stockpile; and

iv The Bin Exchange area.

b Within three months after commencing operations of any item of permanent fixed plant, including any landfill gas utilisation plant, landfill gas powered electricity generator, leachate treatment plant, leachate evaporator or flare, that brings the total power (adding power consumption or power output whichever is the greater for each item), ignoring silent heat loss, to 3 MW more that at the time of any previous noise monitoring.

231A Within one month of the noise level measurements required by Condition 230(a) being completed, and again, within one month of any further noise measurements required by Condition 230(b) being completed, the Consent Holder shall submit a report prepared by a suitably experienced and qualified acoustics expert to Council for certification. The report prepared in accordance with Condition 231 shall demonstrate the results of the noise level measurements required by Conditions 229 and 230, including the details of any adjustments that have been applied to the measurements. The report shall also set out a detailed analysis of the cumulative noise rating level beyond the Site boundaries at any notional boundary (as defined in the AUP) arising from the concurrent operation of all activities that are permitted to operate concurrently on the Site.

231 Prior to the installation of any new noise generating plant on Site (e.g. generators, leachate evaporators, blowers or flares) within 1 km of any notional boundary (as defined in the AUP), the Consent Holder must submit a report from a suitably qualified and experienced acoustics expert to the Council for certification that sets out the following:

a The predicted noise rating level arising from the operation of the new plant at all notional boundaries within 1km of the plant;

b The predicted cumulative noise rating level arising from the operation of the new plant and all other noise sources on the Site that may operate concurrently and that are subject to the noise limits in Condition 228;

The new plant may not be commissioned if the noise rating level predictions show non-compliance with the noise limits in Condition 228.

Once the new plant is operational, the noise emissions shall be measured to confirm compliance with noise limits in Condition 228, either by direct measurement at the most exposed notional boundary, or if that is not practicable, by a measurement near the source to verify the predictions undertaken in accordance with the requirements above.

232 If non-compliance with the noise limits of Condition 228 is identified, noise mitigation measures are to be implemented as soon as practical to achieve compliance. Once compliant noise emissions are confirmed, the results and any mitigation process shall be documented in a report prepared by a suitably qualified and experienced acoustics expert and that report shall be submitted to Council for its certification within one month of the mitigation measures being implemented.

Operational traffic

232A Until such time as the Ara Tūhono Warkworth to Wellsford project (consent order reference [2023] NZEnvC 242 is constructed and open to traffic, the Consent Holder shall, subject to an emergency event, allow no more than 11 heavy vehicles to access to the Site per hour in the period between 2.00 and 7.00pm on Friday afternoons that are immediately prior to a public holiday weekend.

Advice Note: A heavy vehicle is defined as a vehicle which has a gross vehicle mass (GVM) of more than 3500 kilograms.

Commented [RMcV36]: New condition in response to potential operational traffic concerns while the Warkworth to Wellsford project is being constructed

Lighting

233 Lighting of the State Highway 1 roundabout shall comply with the relevant NZTA standards for lighting on State Highways. Unless otherwise required by NZTA, luminaires shall be installed with zero upward tilt and produce no more than 1% direct upward light.

233A Subject to Condition 234, lighting shall be minimised while being sufficient for safe operation, in accordance with the recommendations of AS/NZS 1680.5:2012 (Outdoor workplace lighting) and the AS/NZS 1158 suite of standards (Lighting for roads and public spaces).

234 Prior to any permanent exterior lighting being established within the Site, the Consent Holder shall provide a finalised Lighting Design Plan to Council for certification in sufficient detail that demonstrates that:

a Subject to (b), (c) and (d) below, the proposed lighting meets the relevant permitted standards in Chapter E24 of the Auckland Unitary Plan;

b Artificial lighting is only installed in places where it is necessary, and with minimum lighting intensity (in line with condition 233A);

c All permanent exterior lighting is downward facing, with zero upward tilt, emits zero direct upward light and is not located on the ridgelines (unless there is no practicable alternative or it is required for safety reasons);

d That a suitably qualified bat ecologist has been consulted on the design and its implications for bats;

e The colour temperature of exterior lighting shall not exceed 2700 K;

f Lighting at the Bin Exchange Area shall not exceed 0.1 lux at ground level when measured 10 m from the hard stand. Lux shall be measured with an illuminance meter directed towards the worst-case luminaire; and

g Screen planting is to be established along the habitat edges of the BEA area and the access road to minimise intrusion of headlights from vehicles into habitat areas. Screen planting is to include plant species that will grow to a minimum height of 4m

to minimise the risk of bats flying along the edges at a low height. Large grade plants are to be used to minimise the time lag of plantings reaching the minimum height.

235 Within 2 months after installation of lighting, the Consent Holder shall provide a report from a suitably qualified lighting expert confirming that all lighting has been installed in accordance with the finalised Lighting Design Plan prepared in accordance with Conditions 233, 233A and 234.

236 Lighting within the Site shall not be obtrusive and shall meet lighting standards (as outlined in Conditions 233A and 234), and buildings shall use dark, non-reflective surfaces so that glare and light spill is generally confined to the Site to minimise sky glow effects on the surrounding environment.

237 Signage shall be installed within the Site requiring that when vehicle headlights are used, they shall be dipped (low beam) at all times.

Culvert design – Seasonal Construction

238 Fish passage shall be provided for new culverts within intermittent or permanent streams unless deemed unnecessary or impractical by a suitably qualified freshwater ecologist, who has assessed the fish passage requirements in accordance with New Zealand Fish Passage Guidelines for structures up to 4 metres (NIWA, 2018). Where fish passage is deemed unnecessary or impractical, appropriate data and rationale for this decision shall be provided with the design drawings to Council for certification. This requirement does not apply to culverts entering or discharging from Ponds 1 to 5.

239 Culvert design for new culverts within intermittent or permanent streams shall:

a Be designed to accommodate the 1 per cent annual exceedance probability flood without materially increasing flood levels upstream or downstream of the structure;

b Fish passage elements shall be informed by the 'New Zealand Fish Passage Guidelines for structures up to 4 metres' (NIWA, 2018); and

c Incorporate energy dissipation and erosion control to minimise the occurrence of bed scour and bank erosion in receiving environments.

Erosion and Sediment control for operations and seasonal earthworks

240 The operational effectiveness and efficiency of all erosion and sediment control measures required by the ESCPO provided in accordance with Condition 365 shall be maintained throughout the duration of earthworks activity, or until the area of works is permanently stabilised against erosion

Pre-commencement meeting

241 Prior to any seasonal earthworks, the Consent Holder shall hold a pre-start meeting for each of the activities that:

a Is located on the subject site;

b Is scheduled not less than five days before the anticipated commencement of earthworks;

c Is notified to TWEC not less than one week prior to the meeting to enable representation from TWEC, if they wish to attend;

d Includes Council; and

e Includes representation from the contractors who will undertake the works.

242 The meeting shall discuss the erosion and sediment control measures, ongoing adaptive management regime and shall ensure all relevant parties are aware of and familiar with the necessary conditions of this consent.

The following information shall be made available at the pre-start meeting

a Timeframes for key stages of the works authorised under this consent;

b Resource consent conditions;

c Erosion and Sediment Control Plan for Landfill Operation (ESCPO) ; and

d Adaptive Management Plan.

Advice Note: To arrange the pre-start meeting please contact the Council to arrange this meeting on monitoring@aucklandcouncilgovt.nz, or 09 301 01 01. The conditions of consent should be discussed at this meeting. All additional information required by the Council should be provided 2 days prior to the meeting.

Erosion and Sediment Control Certification

243 Prior to the commencement of any earthworks, a certificate signed by an appropriately qualified and experienced person shall be submitted to the Council, to certify that the erosion and sediment controls for the clay borrow and stockpile areas have been constructed in accordance with the approved ESCPO required by condition 365. Certified controls shall include but not be limited to the sediment retention ponds, clean and dirty water diversion bunds, stabilised construction entrances, silt fencing and super silt fencing. The certification for these and any subsequent measures shall be supplied immediately upon completion of construction of those measures. Information supplied, if applicable, shall include:

a Contributing catchment area;

b Shape and capacity of structures (dimensions of structure);

c Position of inlets/outlets; and

d A statement that the erosion and sediment control measures have been constructed in accordance with Auckland Council Guideline GD05; except where a higher standard is detailed in the documents referred to in the ESCPO required by condition 365, in which case the statement shall confirm that the higher standard has been constructed.

Erosion and Sediment Control Maintenance

244 The erosion and sediment controls implemented throughout the landfill operation shall be inspected on a regular basis, and within 24 hours after each rainstorm event that is likely to impair the function or performance of the control measure. A record shall be maintained of the date, time and extent of any inspection, maintenance and repair undertaken in association with this condition which shall be forward to Council on request.

245 Earthworks shall be managed throughout the landfill operation to avoid deposition of earth, mud, dirt or other debris on any road or footpath resulting from earthworks activity on the subject site. In order to prevent sediment laden water entering waterways from the road, the following methods may be adopted to prevent or address discharges should they occur:

a Provision of a stabilised entry and exit(s) point for vehicles;

b Provision of wheel wash facilities;

c Ceasing of vehicle movement until materials are removed;

d Cleaning of road surfaces using street-sweepers;

e Silt and sediment traps; and

f Catchpit protection.

Advice note: It is recommended that you discuss any potential measures with the Council's monitoring officer who may be able to provide further guidance on the most appropriate approach to take. Please contact the Council for more details. Alternatively, please refer to Auckland Council Guidance Document GD05, Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region.

245A In the event that the deposition described in Condition 245 does occur, it shall immediately be removed. In no instance shall roads or footpaths be washed down with water without

appropriate erosion and sediment control measures in place to prevent contamination of the stormwater drainage system, watercourses or receiving waters.

246 The operational effectiveness and efficiency of all erosion and sediment control measures required by the ESCPO provided in accordance with Condition 365, shall be maintained throughout the duration of any land disturbing activities associated with the operation, or until the site is permanently stabilised against erosion.

247 Erosion and sediment control measures implemented for the landfill operation shall be constructed and maintained in general accordance with Auckland Council Guidance Document GD05; Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region and any amendments to this document, except where a higher standard is detailed in the documents referred to in the consent conditions, in which case the higher standard shall apply.

248 Upon completion or abandonment of earthworks for the landfill operation on the subject site, all areas of bare earth shall be permanently stabilised against erosion to the satisfaction of the Council. Should the earthworks be completed or abandoned, bare areas of earth shall be permanently stabilised against erosion. Measures may include:

a The use of mulching;

b Top-soiling, grassing and mulching of otherwise bare areas of earth; and

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

Advice Note: The on-going monitoring of these measures is the responsibility of the Consent Holder.

Restriction on Seasonal Construction Works

249 No Seasonal Construction Works, shall be undertaken between 01 May and 30 September in any year, without the prior written approval of Council. Revegetation/ stabilisation is to be completed by 30 April in accordance with measures detailed in GD05 and any amendments to this document.

250 Winter Earthworks shall only be considered for approval by the Council in the following scenarios:

a Completion of a specific earthworks area is required to prevent a specific risk or hazard which may result in sediment discharge, or harm to people or the environment if left un-completed;

b Where irregular climate conditions allow for earthworks to be completed throughout prolonged periods of dry weather.; or

c Where an area of less than 2,500m2 is proposed to be worked at any one time.

Advice Note: Conditions 249 and 250 do not apply to the placement of daily cover on the working face of the landfill, and associated utilisation of Main Stockpile.

Review and Completion of Works

251 The investigation, final design, specification and construction of landfill and appurtenant structure earthworks shall be carried out or reviewed by a Chartered Professional Engineer practicing in geotechnical engineering or an Engineering New Zealand registered Professional Engineering Geologist.

252 A detailed construction methodology shall be prepared and included in the CEMP as required by Condition 66 to ensure that the proposed earthworks are staged and carried out in a manner that will not contribute to slope instability, and to ensure that subsoil drainage is provided where appropriate. A signed and dated record of each assessment shall be kept including a pictorial representation of the slope showing all relevant geotechnical and geological features, all unanticipated conditions, and including notes describing any recommended mitigation measures. This record shall be incorporated in the completion report (as required by Condition 254).

253 Cut slopes shall be assessed by a Chartered Professional Engineer practicing in geotechnical engineering or an Engineering New Zealand registered Professional Engineering Geologist for the presence of adverse geological conditions including landslide deposits, geological faults and the groundwater seepage.

254 On satisfactory completion of earthworks, the Consent Holder shall submit a completion report and appropriate stability and suitability statements prepared by a Chartered Professional Engineer practicing in geotechnical engineering or an Engineering New Zealand registered Professional Engineering Geologist. All earthworks shall be carried out in accordance with appropriate earthworks specification prepared by a Chartered Professional Engineer practicing in geotechnical engineering or an Engineering New Zealand registered Professional Engineering Geologist.

Erosion and Sediment Control for Clay Borrow Area and Stockpiles

255 At any one time the maximum open area of the Clay borrow area and Main Stockpile and Topsoil Stockpiles 1 and 2 shall not exceed 5ha.

256 Prior to the commencement of any earthworks at the Clay borrow, Main Stockpile or Topsoil Stockpiles 1 and 2, a Stockpile Chemical Treatment Management Plan (SCTMP) shall be submitted to Council for certification that details how all impoundment devices utilised throughout the enabling and establishment, shall be treated.

256A The SCTMP shall include as a minimum:

a Specific design details of the chemical treatment system based on a rainfall activated methodology for the Site's sediment retention ponds and decanting earth bunds;

b Monitoring, maintenance (including post storm) and contingency programme (including a record sheet);

c Bench testing results;

d Details of optimum dosage (including assumptions);

e Results of initial chemical treatment trial;

f A spill contingency plan; and

g Details of the person or bodies that will hold responsibility for long term operation and maintenance of the chemical treatment system and the organisational structure which will support this system.

257 No earthworks within the Clay borrow, Main Stockpile or Topsoil Stockpiles 1 and 2 shall commence until written certification for the CESCP, SCTMP and relevant SSESCP has been provided from Council.

258 All decanting earth bunds, sediment retention ponds and any other authorised impoundment devices used with the Clay borrow, Main Stockpile or Topsoil Stockpiles 1 and 2, shall be chemically treated in accordance with the approved Stockpile Chemical Treatment Management Plan (SCTMP) unless otherwise approved by Council. Any amendments to the SCTMP or approvals to not chemical treat where not practicable shall be submitted in writing to Council, for written certification prior to implementation.

259A At any one time, the maximum open area of the landfill Site, excluding the Clay borrow area and Main Stockpile, and Topsoil Stockpiles 1 and 2, shall not exceed 7000m^2, unless otherwise approved under Condition 259B.

259AA The base of the Clay Borrow Pit shall remain at least 0.5 m above the invert of the adjacent stream channel to the east of the pit.

259B During the construction of new landfill cells, the open area limit imposed by Condition 259A may be increased with the written approval of Council, subject to the submission and approval of a Site Specific Erosion and Sediment Control Plan to Council that addresses that activity. The Site Specific Erosion and Sediment Control Plan shall include, but not be limited to:

a The relevant matters listed in Condition 128;

b Chemical treatment of sediment retention devices, subject to the Chemical Treatment Management Plan that incorporates the details listed in Condition 256;

c Details on how the open area during the new cell construction will be minimised; and

d Timing of stabilisation.

The works addressed in this condition will be subject to the season restriction of Condition 249.

General air discharge conditions

259C All discharges of contaminants into air arising within the Site boundary from an activity authorised by this consent are the responsibility of the Consent Holder. Any person responsible for operations and discharges to air associated with the process or Site shall be made aware of the relevant conditions of this consent.

260 All processes on Site shall be operated, maintained, supervised, monitored and controlled to ensure that emissions to air authorised by this consent are maintained at the minimum practicable level.

261 Except as authorised by this Consent, beyond the boundary of the Site, there shall be no hazardous air pollutant, caused by discharges from the Site, which is present at a concentration that causes, or is likely to cause adverse effects to human health, ecosystems or property.

262 There shall be no burning of waste on Site.

Dust

263 Beyond the boundary of the Site, there shall be no dust caused by discharges from the Site which, in the opinion of a enforcement officer when assessed in compliance with the *Good Practice Guide for Assessing and Managing Dust (Ministry for the Environment 2016)*, causes noxious, dangerous, offensive or objectionable effect.

264 Effective dust control procedures shall be implemented at the Site including, but not limited to:

a Watering of unpaved internal access roads and manoeuvring areas in active use during dry periods;

b Maintenance of all access and manoeuvring areas to the satisfaction of Council in order to reduce the creation of dust and to prevent the deposition of significant dirt or other material onto public roads; and

c Maintenance of a permanent water supply of sufficient capacity on the Site to control dust at the working face and to dampen down unsealed access roads.

Odour

264A Beyond the boundary of the Site, there shall be no odour caused by discharges from the landfill which, in the opinion of an experienced enforcement officer when assessed in accordance with the Good Practice Guide for Assessing and Managing Odour (Ministry for the Environment, 2016) causes a noxious, dangerous, offensive or objectionable effect.

264B Effective odour control procedures shall be implemented at the Site including, but not limited to:

a Keeping the working surface of the daily waste cell to a practicable minimum in accordance with condition 191;

b Applying daily cover in accordance with condition 193;

c Managing known odorous wastes in accordance with specific procedures in the Landfill Management Plan, including but not limited to:

i Waste acceptance and pre-treatment criteria;

ii Restrictions on the hours of delivery; and

iii Procedures for excavations and immediate covering of placed waste.

d Ensuring equipment and materials for application of odour neutralising sprays are available for use and utilised as required.

Advice Note: Conditions 263 and 295 are to be assessed by suitably trained council enforcement officers in accordance with the procedures outlined in the Good Practice Guides, including consideration of the FIDOL factors (frequency, intensity, duration, offensiveness and location).

Landfill gas

265 The Consent Holder shall install and operate a gas extraction system in a manner which ensures that the rate of extraction of landfill gas is maximised, while minimising the risk of landfill fire due to over extraction.

Advice Note: The design and operation of the landfill gas extraction system are currently regulated by the Resource Management (National Environmental Standards for Air Quality) Regulations 2004. These regulations, or any subsequent amendments, are to be adhered to as part of compliance with this condition.

265A The landfill gas extraction system shall be installed and operated in accordance with the Resource Management (National Environmental Standards for Air Quality) Regulations 2004.

266 All extraction wells shall be connected to the gas extraction system as soon as practicable, and in any case, not longer than 6 months after placing wastes within the radius of influence of the wells. Passive flares with flame arresters shall be allowed to burn the gas venting from the wells prior to connection to the gas extraction system.

266A The temperature of leachate in the low temperature leachate evaporation unit shall not exceed 95°C. The temperature shall be continuously monitored and recorded. The records shall be marked with the correct time and date.

266B The landfill gas extraction system, leachate collection system, low temperature leachate evaporation unit and all associated ducting and pipe work shall be maintained in good condition and be free of gas or liquid leaks.

267 The gas extraction and treatment system shall be restored as soon as practicable in the event of a malfunction or fault. The Consent Holder shall maintain a standby diesel generator or equivalent on Site for the purpose of restarting gas extraction blowers as soon as possible in the event of a mains power failure. The procedures for reducing emissions to air during a mains power failure including the operation of the generators, flares and standby diesel generator and during routine maintenance shall be documented in the Landfill Gas Management Plan (LGMP) required by Condition 363.

268 All extracted landfill gas shall be combusted in a flare(s) or generator(s) or evaporator(s) in accordance with the following requirements:

a Any landfill gas permanent flare(s) shall comply with the following minimum specifications:

i Flame arrester and backflow prevention devices, or similar equivalent system;

ii Continuous automatic ignition system;

iii Automatic isolation systems to ensure that there is no discharge of unburnt landfill gas in the event of flame loss;

iv Minimum temperature of 750 °C and retention time of 0.5 seconds;

v A permanent temperature indicator at half a diameter from the top of the flare with a visual readout at ground level;

vi Minimum stack height of 9 m above ground level;

vii Adequate sampling ports to enable emissions testing to be undertaken; and

viii Provision for safe access to sampling ports while any emission tests are being undertaken.

b Any landfill gas powered generator(s) shall comply with specifications a(i, iii & iv) and a(iii) above; and

i Adequate sampling ports to enable emissions testing to be undertaken; and

ii Provision for safe access to sampling ports while any emission tests are being undertaken

c Any landfill gas emergency or passive flare(s) shall comply with specifications a(i, ii, & iii) above.

268A Except as specified in condition 269, no more than 1,800 cubic metres per hour of landfill gas shall be combusted in generators.

269 The Consent Holder may combust more than 1,800 cubic metres per hour of landfill gas in more than 3 and up to 12 generators if the Consent Holder has first demonstrated, through modelling and/or ambient air quality monitoring to the satisfaction of the Council, that the nitrogen oxides (NOx) emissions from each of the additional generators are not likely to cause the ambient air concentration of nitrogen dioxide (NO2) at any dwelling not owned by the Consent Holder to exceed 25 µg/m3 (24 hour average, 99th percentile).

If this condition 269 is relied on by the Consent Holder, the Consent Holder shall, operate a continuous NO_2 monitor for periods of at least 12 months at a site near to the off-Site dwelling shown to be the most exposed to NOx emissions once the amount of landfill gas combusted in generators exceeds approximately:

a 1800 cubic metres per hour;

b 3600 cubic metres per hour; and

c 5400 cubic metres per hour.

The NO_2 monitoring shall be carried out in accordance with AS 3580.5.1:1993, or an equivalent monitoring method to the satisfaction of the Council.

Following completion of each monitoring period, the Consent Holder shall evaluate the results and demonstrate to the satisfaction of the Council that the combustion of an additional 1,800 cubic metres per hour landfill gas in generators would be unlikely to cause ambient air quality at any off-Site dwelling to exceed 25 µg/m³ (24-hour average, 99th percentile)

270 There shall be no visible emission, other than water vapour, light, heat haze, or steam, from a landfill gas destruction device

271 Each generator engine shall be tuned at least once every six months to comply with a maximum concentration of 550 mg/m3 Nitrogen Oxides (NOx) in the exhaust gas.

272 The concentration of methane at the surface of landfill areas with intermediate or final cover shall not exceed 0.5% (5000 ppm) by volume except where repairs are completed and retests confirm non-exceedance of this limit in accordance with the timeframes specified in Condition 266.

Advice Note: To minimise fugitive landfill gas emissions, methane concentrations above the landfill surface are measured by the three-monthly surface emission monitoring required by Condition 276. If this monitoring identifies an exceedance of the above threshold, remedial actions are required to be implemented or approved by Council within 10 working days as per Condition 277.

273 The concentration of methane in sub-surface gas migration monitoring probes outside the landfill footprint shall not exceed 5% by volume.

Advice Note: Potential sub-surface migration of landfill gas is monitored on a monthly basis under Condition 279. Any exceedance of the above threshold should be immediately investigated and remediated, including advising the Council.

274 The residual nitrogen content of landfill gas in all extraction wells shall not exceed 20% by volume.

Monitoring

275 A walkover site inspection within the landfill footprint shall be undertaken no less frequently than weekly. Any evidence of actual or potential landfill gas leaks, such as odour, cracks in the landfill surface, gas bubbles, leaks in the gas extraction system or vegetation damage or evidence of leachate seeps shall be investigated. The working face shall also be inspected to identify any abnormal odour emissions. Where necessary remedial action shall be undertaken as soon as practicable to minimise fugitive gas discharges or abnormal odour emissions from the working face.

275A Following a significant rain event of 130mm/24 hour, the Consent Holder shall 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 shall be investigated.

276 A Flame Ionisation Detector (FID) or equivalent shall 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 and at least once every month on areas with thickened daily cover or intermediate cover.

277 If monitoring carried out in accordance with Condition 275 demonstrates that the surface methane gas concentration limit specified in Condition 272 is exceeded, then remedial action shall be carried out and the concentrations re-tested within 14 days. If this is not practicable, the Consent Holder shall obtain the approval of Council for a proposed programme of remedial action, including a timetable, within 14 days of the exceedance. The proposed programme shall be implemented to the satisfaction of Council within the proposed time period.

278 Methane concentrations shall be measured and recorded using hand-held landfill gas analysis instruments on a monthly basis in each of the sub-surface gas migration monitoring probes outside the landfill footprint to demonstrate compliance with Condition 273.

279 Landfill gas shall be monitored at each extraction wellhead or, if more appropriate, at manifold points, on a monthly basis. Monitoring shall be carried out using calibrated instruments. The following parameters shall be measured and recorded:

a Gas flowrate (m3/hour);

b Composition (methane (%v/v), oxygen (%v/v), carbon dioxide (%v/v), carbon monoxide (ppm), hydrogen sulphide (ppm));

c Residual nitrogen (% v/v) shall be calculated as the balance of gas measured in clause (b) to demonstrate compliance with Condition 274;

d Gas temperature (°C);

e Ambient temperature (°C);

f Gas pressure (mb); and

g Barometric pressure (mb).

Advice Note: The residual nitrogen content within landfill gas extraction wells is indicative of air being drawn into the landfill, leading to conditions conducive to sub-surface fire. The landfill gas extraction system is to be regularly tuned to maximise gas extraction while not drawing air into the waste. The monthly monitoring of wells tests for nitrogen content and other parameters (notably temperature, carbon monoxide and oxygen) to maintain this balance and reduce the risk of sub-surface fires.

280 The total LFG flow rate (m3/hour) and totalised LFG flow volume (m^3) shall be monitored and recorded continuously at the Renewable Energy Centre. The flow meter shall be calibrated annually.

281 Landfill gas (blended) shall be monitored at the Renewable Energy Centre on a six monthly basis. The following parameters shall be measured and recorded:

a Gas flowrate (m3/hour);

b Composition (methane (%v/v), oxygen (%v/v), carbon dioxide (%v/v), carbon monoxide (ppm));

c Gas temperature (°C);

d Ambient temperature (°C);

e Gas pressure (mb);

f Barometric pressure (mb);

g Hydrogen sulphide (ppm); and

h Total non-methane organic compounds (ppm).

282 Emission 'stack' testing shall be undertaken on the generator exhausts to demonstrate compliance with Condition 271, (NOx) and determine fine particulate matter (PM2.5), total methane organic compounds and sulphur dioxide emission concentrations. On each sampling occasion in (b) below, emissions measurement results shall be averaged over all test results for each pollutant, for each generator tested. These tests shall:

a Be conducted for nitrogen oxides, PM2.5 (measured as total filterable particulate), total non-methane organic compounds and sulphur dioxide;

b Be conducted within one year after the first generator is installed and thereafter at least once every three years. Once there are two or more generators installed, at least two representative generators shall be tested on each sampling occasion. Once there are four or more generators installed, different generators shall be tested on each consecutive sampling occasion;

c Be conducted in accordance with:

i ISO 7935:1992, ISO 7934:1998, USEPA Method 6 or 6C (sulphur dioxide);

ii AS4323.2-1995, ISO 9096:2003 or USEPA Methods 5 or 5I (PM2.5);

iii USEPA Method 18 (non-methane organic compounds);

iv ISO 10849:1996 or US EPA Method 7E (nitrogen oxides); and/or

v Other equivalent methods to the satisfaction of the Council.

d Be carried out by a company with suitable accreditation for the method(s) required by (c) above;

e Be conducted during normal process conditions that will give rise to representative emissions; and

f Comprise not less than three separate samples for each type of emission test undertaken at each generator;

Advice Note: The approval of the Council for an alternate method for source emissions testing will be based on a demonstrated advantage or equivalence of the method over the specified method for the accuracy and precision of results.

283 The Consent Holder shall implement monitoring measures that enable identification of all vehicles entering the Site such that if malodorous loads are received at the working face, these wastes can be tracked to their source and subsequent loads from the source shall only be accepted in accordance with the special odorous waste procedures detailed by the LMP.

284 Regular odour field inspections shall be undertaken around the landfill Site. The field inspections shall:

a Be carried out at least once per week by a representative of the Consent Holder whenever waste is being received to the Site; and

b Be conducted in general accordance with the methodology detailed by the Good Practice Guide for Assessing and Management Odour (Ministry for the Environment, 2016) and set out in the LMP.

285 The Consent Holder shall investigate the cause of any odour detected by these odour field inspections in accordance with the conditions of this consent and the LMP and shall remedy any faults located. A record of each field inspection shall be maintained including weather conditions, the location of any odours identified, the intensity, duration and character of the odour and the findings of any investigation. These records shall be provided to Council as

part of the Annual Air Discharge Report. The records shall also be made available to the CLG, the TWEC, PRP or an Enforcement Officer if requested.

286 The Consent Holder shall undertake monitoring to measure the concentrations of volatile organic compounds (VOC) in ambient air in at least three locations within the vicinity of the Landfill (including one location at or near to the Site boundary) using passive samplers or similar techniques. The monitoring shall be conducted over a period of not less than 30 days, with monitoring rounds occurring within five years of the commencement of the landfill and repeated at least once every ten years thereafter. A report detailing the monitoring and comparing the results against relevant ambient air quality assessment criteria shall be included as part of the Annual Air Discharge Report for that year

287 The Consent Holder shall maintain a meteorological monitoring station, located free from obstructions that accurately records weather conditions representative of the landfill. The data shall be recorded continuously at a minimum ten-minute resolution. The monitoring station shall be calibrated by a suitably qualified and experienced technician at least annually. The parameters measured shall include:

a Wind velocity;

b Wind direction;

c Barometric pressure;

d Rainfall; and

e Temperature.

288 The Consent Holder shall maintain a log of all monitoring, inspections, investigations and actions taken in respect of air discharges in accordance with Conditions 275 to 287. The log shall be made available to Council upon request.

289 The Consent Holder shall submit a summary of landfill gas odour and air discharge monitoring results to Council annually. The summary shall include;

a The average flow rate of landfill gas extracted (m3/hr);

b A summary of air discharge monitoring undertaken, including stack testing, ambient air quality monitoring, surface emission monitoring, and field odour inspections;

c A comparison of the actual landfill gas extraction rate with the predicted gas generation rate. Revised predictions shall be included where significant discrepancies are identified, as well as an explanation for the discrepancies.

d The current state of the landfill gas control system, including a map of existing extraction wells, generators and flares installed; and

e An estimate of average waste composition.

290 The Council shall be notified as soon as practicable in the event of any significant discharge to air, which results or has the potential to result in a breach of air quality conditions or adverse effects on the environment. The following information shall be supplied:

a Details of the nature of the discharge;

b An explanation of the cause of the incident; and

c Details of remediation action taken

291 The Consent Holder shall engage an independent consultant experienced in landfill gas (LFG) and odour management to prepare a report to be submitted to Council and the CLG at least once every five years. The report shall:

a Review monitoring data related to odour field inspections and LFG collection and control recoded in accordance with the conditions of this consent over the past five years;

b Review all odour complaints received over the reporting period;

c Review the response to odour complaints;

d Review the adequacy of the air discharge management practices in the Landfill Management Plan in light of the findings of the reviews in clauses (a) to (c); and

e Recommend any changes to landfill odour and LFG management practices.

292 At ten and fifteen years following commencement of landfill operations, the Consent Holder shall submit a report assessing the landfill gas control system and air discharges from the Renewable Energy Centre against the Best Practicable Option (BPO) for minimising air quality effects. The BPO Report prepared by the Consent Holder shall be reviewed by an independent consultant experienced in landfill gas management. A copy of this review shall be provided with the report.

293 [Deleted in previous versions]

294 [Deleted in previous versions]

295 [Deleted in previous versions]

296 [Deleted in previous versions]

Landscape and visual effects mitigation

297 All earthworks areas, including soil stockpiles, not intended to be disturbed for more than 4 months shall be grassed, hydroseeded or otherwise planted

298 Any areas of the landfill which are no longer required for filling activity, and have reached the final contour and have final cover placed, shall be reseeded or planted with suitable groundcover species as outlined in the report titled 'Landscape and Visual Assessment' Dated May 2019 by Boffa Miskell Ltd and as specified in the Landscape and Visual Management (LVMP) required by Condition 101A except if there is a difference then the current certified LVMP shall prevail or unless there is an Aftercare approved Post Closure Management Plan which specifies planting on the final landfill cap. The timeframe of this planting implementation will be determined by the requirements and restraints of gas extraction infrastructure, schedule of progressive final capping, waste settlement and optimum planting seasons but shall be within 12 months of completion of the part of the final cover.

299 The final landform and restoration of the landfill cap and associated works shall be in accordance with the LVMP required by Condition 101A.

300 Final contouring of earthworks, including stockpiles and landfill cap shall reflect natural or existing adjacent ground contours as far as practicable within engineering constraints

301 The Consent Holder shall ensure that all buildings are designed as simple rural style structures with visually recessive external materials and colours related to the forest and bush setting, subject to any variation recommended by the TWEC and as certified by Council. Non-reflective glass shall be used in glazing of buildings.

Spill prevention

302 All machinery shall be operated in a way, which ensures that spillages of fuel, oil and similar contaminants are prevented, particularly during machinery servicing and maintenance. Refuelling and lubrication activities shall be carried out away from any water body such that any spillage can be contained so it does not enter any watercourse. All mixing of chemicals for construction purposes including grouts, additives and adhesive products shall be carried out outside the 2 year ARI floodplain area such that any spillage can be contained so it does not enter any watercourse. Provisions for being prepared for any spill shall be described in the Site Emergency Management Plan required by Condition 362.

Stormwater Treatment Devices

303 The following stormwater management works shall be constructed prior to discharges commencing from new impervious surfaces

Table 9: Stormwater Management works

Catchment	Works to be undertaken	Design standard

Landfill access road	Filter strips	New Zealand Transport Agency, Stormwater Treatment Standard for State Highway Infrastructure, May 2010'
Bin exchange area	Raingardens (x2)	Auckland Council GD01
Landfill Valley (landfill catchment)	Wetland	Auckland Council GD01
Building roofing	No exposed unpainted metal surfaces	N/A
Workshop	Oil and grit interceptor (min 3,000L)	As per manufacturers design specification

304 The following stormwater management works shall be constructed:

Table 10: Stormwater Management pond volumes

Pond	Minimum volume
Pond 2	22,000 m^3
Pond 3	692,000 m^3
Pond 5	76,000 m^3

Commented [RMcV37]: Amendment to increase capacity of Pond 3 following proposal to raise crest height of this pond as noted in para 2.3 of the T+T technical memo filed on 9 February 2024

305 The stormwater pond system for the landfill shall be designed to not exceed the following maximum rates of discharge from Pond 2:

a 5.8 m^3/s for the 2 year ARI;

b 11.7 m^3/s for the 10 year ARI; and

c 21.9 m^3/s for the 100 year ARI.

306 In the event that any minor modifications to the stormwater management system are required that will not result in an application pursuant to Section 127 of the RMA, the following information shall be provided:

a Plans and drawings outlining the details of the modifications; and

b Supporting information that details how the proposal does not affect the capacity or performance of the stormwater management system.

All information shall be submitted to, and confirmed within 5 working days by the Council, prior to implementation.

Advice Note: All proposed changes must be discussed with the Council, prior to implementation. Any changes to the proposal which will affect the capacity or performance of the stormwater management system or will result in a change to the conditions of this consent will require an application to Council pursuant to Section 127 of the RMA. An example of a minor modification can be a change to the location of a pipe or slight changes to the Site layout. If there is a change of device type (even proprietary), the consent will have to be varied (pursuant to Section 127 of the RMA).

307 At least 20 working days prior to construction of the proposed stormwater systems and treatment devices, the Consent Holder shall submit a design report, including detailed engineering drawings, specifications, and calculations for the stormwater treatment devices, to achieve the requirements in conditions 303 to 306. The details shall include:

a Confirmation that the design achieves the requirements of Conditions 303 to 306;

b Contributing catchment size and boundaries and impervious percentage;

c Specific design and location of stormwater treatment devices; and

d Supporting calculations for stormwater treatment devices, including capacity and suspended solids removal efficiency.

Pre and post Construction Meetings

308 A pre-construction meeting shall be held by the Consent Holder, prior to commencement of the construction of any stormwater devices on Site, that:

a Is arranged five working days prior to initiation of the construction of any stormwater devices on the Site;

b Is located on the subject area;

c Is notified to TWEC not less than one week prior to the meeting to enable representation from TWEC, if they wish to attend;

d Includes representation from the Council; and

e Includes representation from the Site stormwater engineer, contractors who will undertake the works and any other relevant parties.

309 The following information shall be made available prior to, or at the pre-construction meeting:

a Timeframes for key stages of the works authorised under this consent;

b Erosion and sediment control measures during construction;

c Contact details of the Site contractor and Site stormwater engineer; and

d Construction plans, including design details of the stormwater devices, approved (signed/stamped) by an Auckland Council Development Engineer.

310 A post-construction meeting shall be held by the Consent Holder, within 20 working days of completion of the stormwater management works, that:

a Is located on the subject area;

b Includes representation from the Council; and

c Includes representation from the Site stormwater engineer, contractors who have undertaken the works and any other relevant parties.

Advice Note: To arrange the construction meetings required by this consent, please contact the Council on 09 301 0101 or monitoring@aucklandcouncil.govt.nz

As-Built Plans

311 As-Built certification and plans of the stormwater management works, which are certified (signed) by a Suitably Qualified Experienced Person as a true record of the stormwater management system, shall be provided to the Council for information within 30 days of completion of the stormwater management works set out in Conditions 303 to 306.

312 The As-Built plans shall display the entirety of the stormwater management system, and shall include:

a The surveyed location (to the nearest 0.1m) and level (to the nearest 0.01m) of the stormwater management devices, with co-ordinates expressed in terms of NZTM and LINZ datum;

b Plans and cross sections of all stormwater management devices, including confirmation of any storage volumes and levels of any outflow control structure;

c The surveyed locations of all stormwater devices installed for the management of stormwater discharges to ground shall be measured to the nearest 0.1 metre with coordinates expressed in terms of NZTM;

d Documentation of any discrepancies between the design plans and the As-Built plans.

313 All structures authorised by this consent including earth fill dams, stormwater ponds, spillways, pipes and permanent erosion protection shall be maintained by the Consent Holder to ensure that they perform at all times to the standards specified in this consent.

Stormwater monitoring

314 The perimeter drains will be designed to include sumps with continuous electrical conductivity monitoring. These will be designed to detect leachate contaminated surface water and shall send an automated alert to the Landfill Manager advising of a potential contamination event. On receiving an alert, the Landfill Management shall make an initial investigation within 3 hours and then follow up with any other appropriate further investigations and remedial action within timeframes as prescribed in the SMCP.

314B The Consent Holder shall provide duplicate (two) monitoring units at the inlet to Pond 3 from the northern and southern perimeter drains.

315 Stormwater discharged from Pond 1 to the tributary of the Hōteo River shall:

a contain no more than an average of 30 g/m3 of suspended solids in 95% of discharge samples collected in any consecutive twelve month period; and

b Any individual sample shall not exceed the greater of:

– the 95th Percentile value based on the baseline monitoring data undertaken at site SW3A; or

– the monitoring results at site SW4A.

One sample is one half-hourly reading in NTU units of a nephelometric turbidity meter converted to its equivalent reading in g/m3 units of suspended solids.

316 In the event that stormwater discharges from Pond 1 exceeds the limits set in Condition 315, the Consent Holder shall undertake an investigation into the sources of the elevated levels, determine what additional controls could be used, and level of effects attributable to the discharge in the immediate downstream environment. Within one month of the exceedance, the Consent Holder shall provide a report to Council outlining the duration and nature of any discharges which exceeded the upper trigger level, and the proposed measures to be adopted in response to the exceedance.

316A Ongoing sampling and analysis of surface water from each of the monitoring at site SW1/1A, SW2/2A, SW3/3A and SW4/4A, Upstream and Downstream Waiteraire Sites and Hoteo Spindler Road Bridge and Wilson Road Bridge sites as set out on Proposed In-Stream Surface Water Quality Monitoring ~~Map~~ Locations map, revision 0, Figure 1, dated ~~[~~March 2023~~]~~ shall be undertaken for the parameters and frequencies outlined in Condition 375.

316B Stormwater discharged from Pond 1 and the Bin Exchange Area shall not result in:

a an increase of over more than 3 degrees Celsius of the Pond 1 discharge as calculated between the temperature at SW4A and the temperature at SW3A; and

b an increase of over more than 2 degrees Celsius of the Bin Exchange Area discharge as calculated between the temperature at the downstream Waiteraire monitoring site from the temperature at the upstream Waiteraire monitoring site.

The change in temperature is to be calculated as the difference between the two monitoring sites for any sample where one sample is one half-hour reading in temperature units. Within one month of the exceedance, the Consent Holder shall provide a report to Council outlining the duration and nature of any discharges which exceeded the upper trigger level, and the proposed measures to be adopted in response to the exceedance.

317 The Consent Holder shall continuously ("continuously" shall mean at intervals of not more than 30 minutes) monitor the inlet flow to the first stormwater pond to be reached by landfill run-off immediately downstream from the landfill (Pond 3) for electrical conductivity (mS/m). If continuous monitoring results obtained at the Pond 3 inlet show electrical conductivity has exceeded the approved trigger level, then:

a The outlet valve for Pond 3 shall shut automatically.

b An automated alert shall be immediately sent to the Landfill Manager advising of the potential contamination event. On receiving an alert, the Landfill Management shall undertake appropriate further investigations and remedial action within timeframes as prescribed in the SMCP.

Commented [RMcV38]: To address para 4.4 of the T+T technical memo filed on 9 February 2024.

Commented [RMcV39]: Amendment to reference relevant plan

318 The Consent Holder shall continuously ("continuously" shall mean at intervals of not more than 30 minutes) monitor the discharge from the outlet of Pond 1 for the following:

a Flow rate (L/min);

b Electrical conductivity (mS/m);

c Turbidity (NTU); and

d Temperature (°C).

319 If continuous monitoring results obtained at the Pond 1 outlet show electrical conductivity has exceeded the approved trigger level:

a The Pond 1 outlet shall shut automatically.

b An automated alert shall be sent immediately to the Landfill Manager advising of the potential contamination event.

c A grab sample of the stormwater shall be taken as soon as practicable at the point of discharge (outlet) from Pond 1 and analysed for the following parameters at the timeframes specified in the Landfill Management Plan:

i. Temperature (°C);

ii. pH;

iii. Total Ammoniacal Nitrogen (gN/m3);

iv. COD (gO2/m3);

v. Semi Volatile Organic Compounds (SVOCs) (g/m3);

vi. Volatile Organic Compounds (VOCs) (g/m3); and

vii. Chloride (gCl/m3).

319A The access road around Ponds 2 and 3 shall be designed to provide for the diversion of stormwater around the relevant pond system in the event of a blockage or need to contain leachate contaminated water in the ponds.

Commented [RMcV40]: To address paragraph 4.5 of the T+T tech memo filed on 9 February 2024

320 If the results of samples obtained from stormwater pond system inlet and outlet in accordance with Conditions 314 to 317 and tested for the parameters listed in Conditions 318 and 319 show that leachate contamination or other pollutants associated with the Consent Holder's operations is occurring (as defined in the Stormwater Monitoring and Contingency Plan (SMCP) required by Condition 375), then discharge from the stormwater ponds outlet shall cease immediately. The following shall then occur:

a Further testing of the stormwater shall be undertaken to characterise the contamination;

b Downstream testing shall be conducted to determine whether any contamination has been discharged from or escaped the stormwater ponds;

c An investigation shall be undertaken to determine the source of the contamination;

d Measures shall be put into place to prevent further contamination; and

e Discharges of stormwater from the relevant treatment device shall not recommence until electrical conductivity at the point of discharge no longer indicates that contamination is occurring.

321 Where any leachate contamination or other pollutants associated with the Consent Holder's operations escapes to a natural surface water body, the Consent Holder shall:

a Undertake appropriate remedial action immediately as prescribed in the SMCP; and

b Immediately notify the Council of the escape of leachate or other pollutants.

Subsoil drainage monitoring

322 Subsoil drainage beneath the lining system shall be maintained and operated permanently throughout the life of the landfill and the approved aftercare period.

323 The Consent Holder shall continuously ("continuously" shall mean at intervals of not more than 30 minutes) monitor the discharge from the subsoil drains beneath the lining system for electrical conductivity (mS/m).

323A Annual sediment chemistry monitoring downstream of the wetland/Pond 1 discharge (at SW3A) for the range of parameters included in Condition 325.

324 Subsoil drain discharge pipes shall include valves designed to close automatically if continuous monitoring results obtained at the subsoil drainage outlet indicate electrical conductivity has exceeded the approved trigger level. Should this occur then a grab sample shall then be taken of the subsoil drainage shall be taken at the outlet and analysed for the following parameters:

a Electrical conductivity (mS/m);

b Temperature (°C);

c pH

d Total Ammoniacal Nitrogen (g/N/m3);

e COD (gO2/m3); and

f Chloride (gCl/m3).

325 The Consent Holder shall sample the discharge from the subsoil drains beneath the lining system on a quarterly basis for the following:

a Temperature (°C);

b pH; and

c Total Ammoniacal Nitrogen (gN/m3);

d COD (gN/m3); and

e Chloride (gCl/m3).

326 If the results of samples obtained from the subsoil drains in accordance with Condition 323 and tested for the parameters listed in Condition 324 show that leachate contamination is occurring (as defined in the Groundwater Monitoring and Contingency Plan (GWMCP) required by Condition 382), then discharge from the subsoil drains to the stormwater ponds outlet shall be ceased immediately, and all discharge from the drains shall be captured and treated as leachate. The following shall then occur:

a Further testing of the water shall be undertaken to characterise the contamination;

b Downstream testing shall be conducted to determine whether any contamination has been discharged from or escaped the stormwater ponds;

c An investigation shall be undertaken to determine the source of the contamination;

d If it is determined that leachate is present in the subsoil drainage then groundwater samples shall be collected from the monitoring locations immediately surrounding the Landfill. These samples shall be tested for leachate indicators set out in the GWMCP;

e If leachate is detected in groundwater above the groundwater trigger levels then mitigation measures set out in the GWMCP shall be implemented;

f Measures shall also be put into place to avoid further contamination entering the subsoil drains system and/or being released to environment;

g Discharges of water from subsoil drains to the stormwater ponds shall not recommence until all leachate indicator parameters at the point of discharge from the subsoil drains no longer indicates that contamination is occurring; and

gh The subsoil drain outlets will be designed to allow a pump to be fitted to enable the contaminated water to be pumped to the leachate storage and treatment system while investigation and any necessary remediation is undertaken.

326A The Consent Holder shall provide duplicate (two) monitoring units at the outlet of the subsoil drain at Pond 2.

Commented [RMcV41]: To address para 4.1 of the T+T technical memo filed on 9 February 2024

Commented [RMcV42]: To address para 4.4 of the T+T technical memo filed on 9 February 2024

Groundwater monitoring after landfill commencement

327 The existing groundwater monitoring bores on the Site listed in Table 1 above, and repeated in Table 11 as shown on the Groundwater Monitoring and Contingency Plan Monitoring Locations dated December 2020, rev 1 are to be maintained to ensure ongoing monitoring data is obtainable. Should any of the monitoring bores be damaged or become in-operable, then a replacement monitoring bore, to the same depth or greater, is to be drilled at a nearby location in consultation with Council.

Table 11: Groundwater monitoring locations (post landfill commencement)

Reference	Groundwater level	Groundwater chemistry	Purpose
BH1	*		Post landfill commencement groundwater level data from the upper aquifer to assess potential reduction in groundwater levels adjacent to the landfill associated with reduced recharge.
BH2	*		Post landfill commencement groundwater level data from the upper aquifer to assess potential reduction in groundwater levels adjacent to the landfill associated with reduced recharge.
BH3	*	*	Post landfill commencement groundwater level and quality data from the upper aquifer up-gradient location of the landfill.
BH4	*		Post landfill commencement background groundwater level data from the upper aquifer on the ridgeline between the Landfill Valley and the Northern Valley.
BH5	*	*	Post landfill commencement groundwater level and quality data from the upper aquifer on the ridgeline between the Landfill Valley and the Northern Valley.
BH6	*	*	Post landfill commencement groundwater level and quality data from the upper aquifer on the ridgeline between the Landfill Valley and the Northern Valley.

BH7	*	*	Post landfill commencement groundwater level and quality data from the upper aquifer at a down-gradient location.
BH8	*	*	Post landfill commencement groundwater level data from the upper aquifer north east of the landfill.
BH13	*	*	Post landfill commencement groundwater level and quality data from the regional aquifer at a down-gradient location between the landfill and the Waitaraire Stream receptor zone..
BH14	*	*	Post landfill commencement groundwater level and quality data from the regional aquifer at a down-gradient location to the west of the Waitaraire Stream.
BH15 (until removed for landfill footprint)	* (VWPs)		Post landfill commencement groundwater level data to assess the vertical downward gradient beneath the proposed landfill footprint until removed during construction.
TB01 (potable)		*	Post landfill commencement groundwater quality data from the regional aquifer at a down-gradient location between the landfill and the Waitaraire Stream and Hōteo River receptor zones.
BH16 (downstream of landfill in vicinity of toe of landfill)	*	*	Post landfill commencement groundwater level and quality data from the shallow upper aquifer down gradient of the toe of the landfill and in the direction of Watercare's water supply well.

			To be screened across the water table.
BH17 (between southern landfill and tributary of Waitaraire Stream)	*	*	Post landfill commencement groundwater level and quality data from the regional aquifer and in the direction of the Waitaraire Stream receptor zone. Located on the ridgeline south of the landfill footprint and installed as a nested monitoring well or a well pair to target two discrete zones. These two monitoring zones will target the upper aquifer and the regional aquifer close to the elevation of the Waitaraire Stream.
BH18 (downstream of landfill in vicinity of Spindler Rd)	*	*	Post landfill commencement groundwater level and quality data from the regional aquifer down gradient of the landfill and in the direction of Watercare's water supply well. This is located on WMNZ property in the vicinity of Spindler Road. To be screened at depth within the regional aquifer, considering the Watercare production bore design.
BH19 (down-gradient of pond 3, to shallow depth)	*	*	Post landfill commencement groundwater level and quality data from the shallow groundwater in the upper aquifer to monitoring potential discharges from pond 3. To be screened across the water table.

BH20 (between south eastern landfill boundary and Upper Waitaraire Tributary)	*		Post landfill commencement groundwater level data from the upper aquifer zone to monitor for potential baseflow effects on the Upper Waitaraire Tributary. Target screen depth of around 120m RL.
BH21 (down-gradient of Pond 1, to shallow depth)	*	*	Post landfill commencement groundwater level and quality data from the shallow groundwater in the upper aquifer zone to act as a well pair to BH7 and monitor down-gradient of the wetland. To be screened across the water table.
BH22 (between south western landfill boundary and tributary of Waitaraire Stream)	*	*	Post landfill commencement groundwater level and quality data from the regional aquifer down-gradient of the landfill to monitor the potential flow path to the Waitaraire Stream receptor zone.

328 The list in Table 8 includes the following additional wells that are to be drilled prior to landfill commencement:

a Two wells immediately downgradient of the foot of the landfill (BH16 and BH19);

b One well downgradient of the wetland discharge (BH21);

c Three wells to the south and south west of the landfill (BH17, BH20 and BH22); and

d One well located close to the existing airfield, between the landfill footprint and the future Watercare Services Ltd groundwater take BH18). This location shall be agreed in consultation with Watercare Services Ltd.

329 The parameters for groundwater chemistry analysis after landfill commencement shall be as listed in Table 12 below:

Table 12: Groundwater monitoring parameters (post landfill commencement)

PARAMETER	**UNITS**	**Quarterly sampling**	**Annual sampling**
Temperature	°C	Y	Y
Sodium	g Na/m3		Y
pH			Y
Chloride	g Cl/m3	Y	Y

Conductivity	mS/m	Y	Y
Potassium	g K/m3		Y
Total Ammoniacal Nitrogen	g N/m3	Y	Y
Total Hardness	g CaCO3/m3		Y
Zinc (soluble)	g Zn/m3	Y	Y
Manganese (soluble)	g Mn/m3		Y
COD	g O2/m3		Y
Arsenic (soluble)	g As/m3	Y	Y
Copper (soluble)	g Cu/m3	Y	Y
Lead (soluble)	g Pb/m3	Y	Y
Nitrate Nitrogen	g N/m3		Y
Sulphate	g SO4/m3		Y
Alkalinity	g CaCO3/m3		Y
Boron	g B/m3	Y	Y
Nickel (soluble)	g Ni/m3	Y	Y
Calcium	g Ca/m3		Y
Iron (soluble)	g Fe/m3		Y
Magnesium (soluble)	g Mg/m3		Y
Cadmium (soluble)	g Cd/m3	Y	Y
Chromium (soluble)	g Cr/m3	Y	Y
Semi Volatile Organic Compounds	g/m3		Y
Total Petroleum Hydrocarbons	g/m3		Y
Polycyclic Aromatic Hydrocarbons	g/m3		Y

330 Groundwater shall be monitored on a quarterly basis or at a lesser frequency (greater intervals between readings) acceptable to Council but no less frequent than six-monthly from the Landfill Commencement Date in accordance with the Groundwater Monitoring and Contingency Plan (GWMCP) required by Condition 382.

331 Should groundwater monitoring results identify leachate contamination as defined in the GWMCP (condition 382), then the Consent Holder shall immediately notify Watercare Services Limited (WSL), Council and TWEC.

332 Within five (5) working days of receipt of sample results showing contaminants exceeding the agreed trigger levels:

a An investigation shall be undertaken to determine why exceedances were detected and to identify any additional source controls or treatment required; and

b Any additional structural or procedural controls, including increased monitoring frequency or parameters proposed by the Consent Holder shall be submitted to the Council for certification prior to their implementation.

333 If two or more groundwater quality exceedances of any two or more pollutant indicator parameters at any one well are recorded within a rolling 12 month period, the Consent Holder shall engage a suitably qualified independent reviewer to review the response to recurring exceedances of trigger levels, and to provide recommendations to the Consent Holder, TWEC and Auckland Council.

333A The outlet for the central under-liner subsoil drain (required by Condition 140) shall be monitored continuously for volumetric flow rate as a means of assessment of the ongoing operational performance of the under-liner subsoil drainage, and to enable assessment of an inward groundwater hydraulic flow gradient toward the axis of the Landfill Valley.

If the flow rate reduces to less than the 5th percentile for the respective month (since landfill commencement), then the following process shall be followed:

a Investigation of the cause of the change of water flow rate within one month or within a period agreed in advance with Council, which may include, but not be limited to:

- i A review of seasonal fluctuations since installation to assess whether the change of water flow rate is exceptional.
- ii A review of climatic conditions prior to the change of flow.
- iii A review of stream flow rate monitoring data at locations SF1, SF2 and SF3.
- iv A review of the subsoil drainage water quality monitoring data.
- v A review of quarterly groundwater level readings around the ridgeline including BH1, BH2, BH3, BH4, BH5, BH6, BH16 and BH20.
- vi A review of the potential effect on drain flow rate due to ground coverage by landfill development.
- vii An assessment of whether blockages in the drain could have occurred.

b Preparation of a report to be issued to Council within one month following the completion of the investigation described in this Condition but not longer than three months after the observed change of flow rate reaches the threshold level described in this Condition detailing the findings of the investigation and proposed actions.

c Liaison with Council to agree proposed actions.

d Implementation of the agreed actions.

Groundwater take from potable supply bore TB01

334 The daily abstraction shall not exceed 50m^3. The total volume of water abstracted in each 12 month period, commencing 1 July of any year and ending 30 June of the following year, shall not exceed 18,250m^3.

Installation of water meter

335 Prior to exercise of this consent, a water meter with an electronic pulse output shall be installed and maintained at the outlet of the pump to the groundwater take bore to the satisfaction of Council. The water meter shall:

a Be fit for the purpose and water it is measuring;

b Measure the volume of water taken, with an accuracy of +/- 5% of the actual volume taken;

c Be tamper-proof and sealed; and

d Be installed and maintained in accordance with the manufacturer's specifications.

Verification of Water Meter/device accuracy

336 The water meter for the groundwater take shall be verified as accurate by a suitably qualified professional at the following times:

337 Prior to the exercise of this consent;

a Within five (5) working days of the water meter being serviced or replaced;

b By 30 June of the fifth year from the commencement of consent, and thereafter at five yearly intervals.

338 The water meter, its verification and evidence of its accuracy shall be in accordance with the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 (or any equivalent regulations that may replace them) and a copy of the verification shall be provided to Council within 10 working days of the meter/devices being verified as accurate.

339 Provision at the top of the bore for water level measurements shall be made and maintained so that a probe can be lowered vertically into the bore between the riser tube and casing to measure the static water level in the bore

340 Provision at the top of the bore for water quality sampling shall be made and maintained so that a sample of water can be taken from the bore for water quality analysis. A tap or hand valve shall be fitted as close to the pump outlet as possible and before the water enters any storage tank or filter. The tap or valve should have at least 0.3 metre clearance above ground level or any other obstruction to allow a sample bottle to be filled.

341 The method of monitoring of the groundwater take from the bore shall be described in the Groundwater Monitoring and Contingency Plan required by Condition 382.

Water meter readings

342 A water meter reading shall be taken at daily intervals consistently at one of these times:

a before pumping starts for a day; and

b at the end of pumping for a day.

The date and the water meter reading shall be recorded and provided to the council in accordance with the reporting condition below.

Advice Note: If no water is taken during any period the current meter reading must still be recorded

Water reporting

343 The following information shall be entered, at the frequency and date specified, to the council's Water Use Data Management System or to any replacement database identified in writing by Council.

Information	Due Dates for reporting
Water use water meter reading and date.	Quarterly

Advice Note: The web address for council's on-line Water Use Data Management System is: http://aklc.hydrotel.co.nz/hydrotel/cgi-bin/WudmsWebServer.cgi

Your WUDMS customer number is P 2650636705 and the password is 1234. For the link to work properly you need to ensure that Council has your up-to-date email address for contact purposes. An on-line manual explaining how to enter and submit your water readings is available at the web address specified above.

Fire Fighting Water Supply

345 Upon completion of the construction of the Site buildings, sufficient water volume, pressure and flows shall be provided for those buildings in accordance with NZFS Fire Fighting Water Supplies Code of Practice SNZ PAS 4509:2008.

346 If the water supply in reference to any Site building is to be provided by way of tank storage, this tank storage should be located between 5m and 90m away from the building in accordance with NZFS Fire Fighting Water Supplies Code of Practice SNZ PAS 4509:2008, unless otherwise agreed in writing with Fire and Emergency New Zealand. Any tank used for the storage of fire fighting water supplies is to be fitted with a 100 mm female round thread

suction hose adaptor in accordance with the NZFS Specification for Firefighting Waterway Equipment SNZ PAS 4505:2007.

Dust and tracking

347 Wheel washing facilities shall be provided and shall be used by all vehicles that have travelled off the sealed road and hardstand areas, prior to the vehicle departing the Site in any instance where there is potential for mud to be tracked out onto State Highway 1.

348 All vehicle exits from the Site onto State Highway 1 shall be cleaned as necessary.

Environmental reporting

349 An Annual Report evaluating the Site's environmental performance for the preceding year shall be forwarded annually to Council from a date that is within 12 months from the Landfill Commencement Date, and thereafter annually.

Advice Note: The month of submission of the Annual Report shall be agreed with Council.

350 The Annual Report shall include but not be limited to:

a All aspects of the performance of ITAMP, and LMCP (Conditions 368 and 387) relating to this consent;

b A summary of all revisions and revised sections of the ITAMP and LMCP;

c Summary details of all inspections and maintenance of the stormwater treatment devices for the preceding 12 months;

d Details of the person(s) or body responsible for maintenance of the Site and the organisation's structure supporting this process;

e Results of the preceding 12 months' stormwater, surface water, subsoil drainage, leachate and groundwater monitoring, along with an interpretation of those results and suggestions for improvement to the Site operations;

f Results and analysis of less frequent macroinvertebrate, periphyton and macrophyte monitoring whenever that monitoring has been carried out in the previous 12 months; and

g Summaries of any spills or incidents which occurred within the previous 12 months and the response which was undertaken.

Surface water take from stormwater ponds

351 The take and use of surface water from the impoundments of three on-stream stormwater detention dams located on tributary number 457405 of the Hōteo River at map references 1741573.780 mE 5978107.002 mN (dam no.3) and 1741440 mE 5978305 mN (dam no.2) on land legally described as Middle and North Western Part Allotment 15 Parish of Hōteo (CT NA1149/48), and Allotment North Middle 15 Parish of Hōteo (CT NA643/294) at 1232 State Highway 1, Wayby Valley, Warkworth for dust suppression, road washing, wheel wash and other non-potable water use for landfill purposes on land at 1232 State Highway 1, Wayby Valley, Warkworth shall be carried out in accordance with the plans and all information submitted with the application, and all referenced by Council as consent number WAT60339673.

352 The abstraction shall comply with the following:

a The total daily abstraction shall not exceed 150 cubic metres; and

b The total volume of water abstracted in each 12-month period, commencing 1 July of any year and ending 30 June of the following year, shall not exceed 54,750 cubic metres.

Baseflow monitoring in neighbouring catchments

353 Prior to Initial Site Construction Works commencing, a Baseflow Monitoring Programme shall be developed and submitted to Council for certification. The purpose of the Baseflow

Monitoring Programme shall be to monitor the flow regime within the Eastern Stream and selected tributaries of Northern Valley and the Upper Waitaraire Tributary, that may be affected by a change in groundwater level (this includes specifically tributaries on the southern side of the Northern Valley and the reaches described as the Upper Waitaraire Tributary). The Baseflow Monitoring Programme shall:

a Establish a monitoring methodology to provide sufficient details to understand the baseline flow regime and against which to measure change in flow regime;

b Be undertaken prior to construction, during construction and operation and during the aftercare period;

c Include monitoring to consist of continuous stream levels and quarterly streamflows at the locations in Table 13:

Table 13: Baseflow monitoring locations

Reference	Streamflow	Stream water level
SF1 (Base of Northern Valley)	*	*
SF2 (Downstream of Landfill Valley and Northern Valley confluence)	*	*
SF3 (Base of Upper Waitaraire tributary)	*	*

d Continue groundwater level baseline monitoring in the existing wells and proposed new well (referred to as BH20 in conditions set);

e Identify the likely intermittent/ephemeral stream transition points on a nominated representative tributary within Northern Valley the Upper Waitaraire Tributary;

f Establish correlations between permanent streamflows in the Northern Valley stream and the long term Waiwhiu record to calculate the flow statistics;

g Establish correlations between permanent streamflows in the tributary to the Waitaraire Stream and the long term Waiwhiu record to calculate the flow statistics;

h Establish correlations between permanent streamflows and groundwater levels around Landfill Valley and Northern Valley;

i Establish trigger/action levels to the satisfaction of Auckland Council from the baseline monitoring data;

j Provide an adaptive management approach to address potential effects on intermittent and permanent streams in the future from the Landfill construction; and

k Outline the likely means by which compensation flows could be provided, if required.

Downstream flow regime management

354 Compensation flows shall be provided at the downstream point of the wetland discharge, downstream of the permanent stormwater ponds, to maintain 85% of the Mean Annual Low Flow (MALF) within the Eastern Stream, in accordance with the flow regime management framework required by condition 355.

355 A flow regime management framework shall be prepared and submitted to Council for certification at least one month prior to construction of the permanent stormwater ponds. The flow regime management framework shall set out:

a The methods by which the flow regime has been quantified (in accordance with Baseflow monitoring provisions in condition 353);

b The compensation flow required to achieve 85% MALF;

c The circumstances in which compensation flows are required; and

d How compensation flows will be provided.

Part F – Landfill Management Plan

356 The Consent Holder shall develop and implement an overall Landfill Management Plan (LMP) for the duration of this consent. At least one printed copy of the LMP shall be held on Site at all times. The overall objective of the LMP shall be to set out the practices and procedures to be adopted to achieve compliance with the conditions of consent.

357 At least six months prior to the Landfill Commencement Date ~~(acceptance of waste at the site)~~, the LMP shall be submitted to the TWEC and PRP for review and expert commentary on the matters for which they have oversight under this consent. All recommendations of the PRP shall be considered by the Consent Holder and the revised LMP, TWEC and PRP's commentary shall be submitted to Council for certification, to confirm that the activities undertaken in accordance with the LMP will achieve the objectives of the LMP and compliance with the relevant consent conditions.

358 The LMP shall address how the following matters will meet any requirements, limits or restrictions set out by the consent conditions:

a The stages and order of landfill development;

b Construction and testing of the lining system;

c Gas, leachate and water management and monitoring;

d Types of waste to be accepted and those that are prohibited;

e Waste acceptance control and methodology of monitoring types of waste accepted;

f Sampling methodology for special wastes, including differentiation between routine, consistent, and well-characterised waste and variable waste sources;

g Methods of placing waste;

h Methods of handling special wastes;

i Landfill working face and cover management;

j Noise and vibration management;

k Nuisance control procedures;

l Pest and weed control;

m Monitoring procedures;

n Emergency procedures;

o Contingency plans;

p Odour management;

q Monitoring and maintenance of the Landfill gas collection system, generators, flares and low-temperature leachate evaporator;

r Complaints response procedure;

s Record-keeping;

t Emergency management and response measures;

u Traffic management with reference to vehicle movements to and from State Highway 1;

v Final post settlement height, shape and contours of the land, in accordance with the plans;

w List of items to be completed prior to each stage including prior to Landfill Commencement Date;

x Maintenance, including defects replacement, for areas of mitigation planting; and

y After-care;

359 The LMP shall also include the subordinate management plans listed in Table 3. The LMP, when certified by Council, shall be adhered to at all times

360 The LMP shall be subject to review annually from the date the Landfill Commencement Date (unless the requirement for review is waived by Council), such review to include assessment of the performance of the practices and procedures specified in it. Any amendment required by Council arising out of this review or requested by the PRP arising out of their role shall be incorporated into the LMP without delay and submitted to the PRP for review on the matters for which they have

Commented [RMcV43]: WM and Ngāti Manuhiri propose to agree relevant conditions specifying contents of management plans with experts and parties. Updated copies of management plans (which include various plans referenced in the proposed conditions) can then be submitted to the Court

oversight under this consent and Council for certification that the LMP meets the requirements of Condition 358. The Consent Holder shall lodge a copy of the certified LMP with Council, PRP, CLC and MWR and a hard copy shall be made available at the Landfill during office hours. Council may waive the annual review requirement for that year if no amendments are required by the PRP and Council.

Bin Exchange Area Management Plan

361 The Consent Holder shall prepare and maintain a Bin Exchange Area Management Plan (BEAMP) and submit it to Council for certification. The BEAMP shall describe the operations of the bin exchange area, including demonstrating how compliance with the conditions of this consent will be achieved.

361A The BEAMP shall include the following specific limits and standards which operation within the BEA must comply with:

a Operational hours as set out at Condition 186(b);

b Noise restrictions and limits, including on trucks within the BEA as set out at Conditions 227 and 228;

c Lighting restrictions as set out at Condition 234; and

d Traffic restrictions as set out at Condition 189.

361B The plan shall include (if appropriate by way of reference to other plans described in these conditions):

a Methods for recording time of bin arrival and exit from the bin exchange to ensure that bins containing waste will be taken to landfill within 2 working days;

b Measures to control and manage the bin exchange area in the event of a forecast extreme weather event;

c Controls on traffic movements into and out of the bin exchange area, including measures to restrict public/non-permitted access to the bin area (and means to direct public/non-permitted users back to the public road State Highway 1);

d Processes to prevent queuing onto State Highway 1 from the Bin Exchange Area and actions to be implemented should any queuing generated by the Bin Exchange Area extend onto Landfill Access Road, to ensure queuing onto State Highway 1 is avoided;

e Methods to minimise the number of trucks approaching the Site from the south on Friday afternoons between 2pm and 7pm between October and April (and any other Friday afternoons immediately prior to a public holiday weekend) as far as reasonably practicable, until the SH1 Warkworth to Wellsford project becomes operational including methods to address Condition 232A;

f Measures to manage noise in the area, including restrictions on reversing alarms;

g Appropriate cross references to measures in other management plans applying to the Bin Exchange Area; and

h Methods to confirm bins are sealed and contained.

Commented [RMcV44]: Amendment to include a cross reference to new proposed condition limiting operational truck movements during Friday long weekends

Site Emergency Management Plan

362 The Consent Holder shall prepare and maintain a Site Emergency Management Plan (SEMP), as part of the Landfill Management Plan. The SEMP shall be provided to Council for certification as part of the LMP certification process. Advice of the existence of this Plan, and information on how to obtain a copy, shall be provided by the Consent Holder to the Council and other appropriate organisations such as Fire and Emergency New Zealand and the Auckland Regional Public Health Service. The SEMP shall include procedures to manage the risk from and contingency measures for:

a Landfill fire;

b Wildfire;

c Forecast extreme weather event; and

d Flooding.

Landfill Gas Management Plan

363 The Consent Holder shall maintain a Landfill Gas Management Plan (LGMP), as part of the Landfill Management Plan. The LGMP shall be provided to Council for certification as part of the LMP certification process. The purpose of the LGMP is to record all management and operations procedures, methodologies, and contingency and emergency plans necessary to comply with the conditions of this consent. The LGMP shall include the following information:

a Landfill Gas System – Design and Construction;

b Landfill Gas System – Operation;

c Landfill Gas Monitoring;

d Landfill Gas Contingency; and

e Landfill Gas Management System monitoring and maintenance measures

363A The LGMP shall include the following specific limits and standards which landfill gas system and management on Site must comply with:

a The limits and requirements set out at Conditions 265 – 274 regarding the design and management of landfill gas systems on Site; and

b The monitoring requirements for landfill gas at Conditions 275 – 292.

364 The LGMP shall include measures to monitor for elevated temperatures and provide trigger levels and contingency actions. The measurements shall include monitoring the CH4:CO2 ratio and landfill gas temperatures, with CH4:CO2 ratio of <0.6 being the trigger to investigate any higher temperatures, possible causes and possible remedial works.

Erosion and Sediment Control Plan - Landfill Operations

365 An Operational Erosion and Sediment Control Plan (ESCPO) shall be prepared by a suitably qualified person in general accordance with Auckland Council Guideline GD05, Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region, and submitted to Auckland Council for certification. The purpose of the ESCPO is to set out the measures to be implemented to minimise erosion and the discharge of sediment to receiving water bodies after the Landfill Commencement Date.

366 The ESCPO shall include the following information as appropriate to the scale, location and type of earthworks:

a Drawings showing location and quantities of earthworks, contour information, catchment boundaries and erosion and sediment controls (location, dimensions, capacity);

b The location of erosion and sediment controls including their position in relation to flood plains and how flood risk will be managed;

c Supporting calculations for erosion and sediment controls;

d Catchment boundaries and contour information;

e Details of construction methods to be employed, including timing and duration;

f Dewatering and pumping methodology (if applicable);

g Details of the proposed water treatment devices;

h A programme for managing exposed area, including staging detail and progressive stabilisation considerations;

i The location of Site entrance points and means to control tracking of sediment off-Site;

j The details for decommissioning controls;

k Key responsibilities for implementing and maintaining the controls detailed in the SSESCP during the project;

l Monitoring, maintenance and record-keeping requirements; and

m Updated USLE calculations and estimated sediment loads to ensure consistency with the application documents.

367 Prior to 1 October every year throughout the operation of the landfill, the Consent Holder shall undertake an annual review of the ESCPO and re-submit for certification to Council. The ESCPO shall detail if works are proposed in a new area of the landholding or to re-disturb an area which has been vegetated on a temporary basis, any changes to the proposed erosion and sediment controls, and any changes to incorporate updates in industry best practice.

Industrial and Trade Activities Management Plan

368 The Consent Holder shall prepare and submit a Stormwater and Industrial and Trade Activities Management Plan(s) (ITAMP) to Council for certification. The purpose of the ITAMP is to set out the Best Practicable Option (BPO) approach to avoid, remedy or mitigate potential adverse effects arising from stormwater management and the ITAs on Site, including treatment devices, operational procedures and management systems.

369 The ITAMP shall include the following:

a Site activities, layout and drainage plans, including an up-to-date and accurate Site drainage plan showing the location of all stormwater treatment devices on Site and the final discharge point(s) of the Site stormwater system;

b Identification of potential contaminants associated with the activities conducted on the Site, methods to avoid, control and treat discharges of these from the site(s), and methods to manage environmental risks from Site activities as far as practicable;

c Identification of hazardous substances on Site;

d An emergency Spill Response Plan (SRP) (which includes the provision that all spills over 20 litres, or any spill of Environmentally Hazardous Substances that has entered the stormwater system, a water-body or has contacted unsealed ground, shall be reported immediately to the Council's 24 Hour Pollution Hotline (09-377-3107)) or reference to a SRP contained in the SEMP;

e Operation and maintenance procedures for treatment devices, or cross-reference to the SSOMP required by Condition 371 if it contains this information;

f Roles and responsibilities associated with the ITAMP;

g Methods for providing and recording staff training on the ITAMP;

h Stormwater Monitoring and Contingency Plan (SMCP) (as described in Condition 375);

i A Stormwater System Operation and Maintenance Plan (SSOMP) (as described in Condition 371;

j A programme for auditing Site performance against the ITAMP provisions; and

k Reporting and review of the ITAMP.

370 The Site shall be operated and managed in accordance with the ITAMP to ensure the risks to surface water quality from the Site are managed appropriately.

Stormwater Operation and Maintenance Plan

371 A Stormwater System Operation and Maintenance Plan (SSOMP) shall be provided to Council for certification at least three months prior to Industrial and Trade Activities occurring on Site. The SSOMP shall set out how the stormwater management system is to be operated and maintained so that adverse environmental effects are minimised or mitigated. The plan shall include:

a Details of who will hold responsibility for maintenance of the stormwater management system and the organisational structure which will support this process;

b A monitoring programme to determine maintenance frequency;

c A programme for regular maintenance and inspection of the stormwater management system;

d A programme for the collection and disposal of debris and sediment collected by the stormwater management devices or practices;

e A programme for post storm inspection and maintenance;

f A programme for inspection and maintenance of the outfalls; and

g General inspection checklists for all aspects of the stormwater management system, including visual check.

h Specific considerations for the operation and maintenance of the stormwater management system located within the pest-exclusion area of the Wayby Valley Sanctuary.

372 The stormwater system shall be managed in accordance with the certified Stormwater System Operation and Maintenance Plan.

373 Details of all inspections and maintenance for the stormwater system, for the preceding three years, shall be retained, and shall be provided to Council on request, including:

a Details of who is responsible for maintenance of the stormwater management system and the organisational structure supporting this process;

b Details of any maintenance undertaken; and

c Details of any inspections completed.

374 A final updated Stormwater System Operation and Maintenance Plan shall be submitted to Council for certification before the Landfill Commencement Date.

Stormwater Monitoring and Contingency Plan

375 At least 90 days prior to the commencement date, a final Stormwater Monitoring and Contingency Plan (SMCP), incorporating a Stormwater Monitoring Programme (SMP), to assess the ongoing adequacy of all water quality management practices shall be developed and submitted to Council for certification.

376 The SMCP shall include, but not be limited to:

a Sampling location for final discharge from the Site stormwater treatment device outlets;

b Sampling locations from the surface water bodies within the Site;

c Methods and procedures for water quality sampling;

d Monitoring parameters for analysis from the stormwater discharge points and SW1A, SW2A, SW3A, SW4A on a monthly basis (at the same time as quarterly monitoring required by Condition 375(e) when they coincide) and shall include:

i pH;

ii Temperature (oC);

iii Total Suspended Solids (TSS) (mg/L);

iv Alkalinity (gCaCO3/m^3);

v Chloride (gCl/ m^3);

vi Total ammonical Nitrogen (gN/ m^3);

vii Electrical Conductivity (EC) (mS/m); and

viii Dissolved Oxygen (gO/ m^3).

e Monitoring parameters for analysis from the stormwater pond discharge points and SW1-4 on a monthly basis and shall include:

i Temperature (oC);

ii Metals and toxicants (dissolved trace including Aluminium, Zinc, Arsenic, Cadmium, Chromium, Nickel, Lead and Copper) (mg/L);

iii Nitrate – N (mg/L);

iv Total Phenols (mg/L);

v Ammonia (mg/L);

vi Total Hardness;

vii Total (Aluminium, Calcium, Iron, Magnesium, Potassium, Sodium, Chloride and Sulphate (mg/L);

viii Total Phosphorus (mg/L);

ix Total Boron (mg/L);

x Oil & grease (mg/L);

xi Chemical Oxygen Demand (COD) (gO2/m^3);

xii Biological Oxygen Demand (BOD_5) (mg/L); and

xiii Total petroleum hydrocarbons (mg/L).

f Sampling location for discharges from the Site wheel wash pond;

g Monitoring parameters for analysis from the wheel wash pond shall include:

i pH (mg/L);

ii Total suspended solids (TSS) (mg/L);

iii Electric conductivity (mS/m);

iv Oil and grease (mg/L);

v Temperature (oC); and

vi Total ammoniacal nitrogen (g N/ m^3).

h Monitoring parameters for analysis on a continuous basis for SW1-4, Upstream and Downstream Waitaraire sites and Hoteo Spindler Road and Wilson Rd bridge sites shall include:

i Temperature (oC);

ii Total Suspended Solids (TSS) (mg/L); and

iii Electrical Conductivity (EC) (mS/m).

i Monitoring of macroinvertebrates and of periphyton and macrophytes, which shall occur annually for the first 3 years of the landfill's operation, and then on a ~~bi-annual~~biennial basis;

~~j~~j Monitoring of endocrine disruptors and microplastics, which shall occur on a biennial basis at the locations in Condition 53B following the Landfill Commencement Date;

~~j~~k Trigger levels for each of the above parameters in clauses (d) and (e) based on the relevant ANZG values and methods to establish protection levels, the baseline monitoring results, and the concentrations measured upstream prior to mixing (preliminary trigger levels are set out in Part J); and

~~k~~l The methods and procedures for investigating and reporting stormwater discharge monitoring results to Council.

377 The SMCP shall be implemented from the Landfill Commencement Date.

377A Contingency measures should leachate contamination occur in stormwater are expected to include:

a Chemical treatment of contaminated water in the ponds;

b Aeration of the pond water by any practical means;

c Trucking contaminated water to a wastewater treatment plant; and

d Excavating contaminated pond sediment and disposing of it in the landfill.

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

a An investigation shall be undertaken to determine why exceedances were detected and to identify any additional source controls or treatment required;

b The results of the investigation shall be reported to Auckland Council and TWEC; and

c Any additional structural or procedural controls proposed by the Consent Holder shall be approved by Auckland Council, in writing prior to their implementation.

Commented [RMcV45]: New condition on monitoring of endocrine disruptors and microplastics

Commented [RMcV46]: Preliminary surface water trigger levels are set out in Part J. It is intended that these trigger levels will be finalised in due course, subject to WM and its experts being able to confirm these as final

Commented [RMcV47]: New condition to include reference to potential contingency measures in the event leachate contamination of surface water is detected

379 An annual report evaluating the Site's environmental performance for the year to date shall be forwarded annually to the Council from the first placement of waste.

380 The Annual Report shall include but not be limited to:

a All aspects of the performance of the Industrial and Trade Activities Environmental Management Plan relating to this consent;

b A summary of all revisions and revised sections of the Industrial and Trade Activities Environmental Management Plan;

c Details of all inspections and maintenance of the stormwater system for the preceding 12 months;

d Details of and changes to the person(s) or body responsible for maintenance of Site and the organisations structure supporting the process;

e Results and analysis of the preceding 12 months stormwater monitoring, along with an interpretation of those results and suggestions for improvement to the Site operations; and

f Records of any spills or incidents which occurred within the previous 12 months and the response which was undertaken;

381 Within three months of the completion of the first three years of monitoring required by condition 376, a monitoring report shall be prepared which includes but not limited to:

a A summary of the monitoring results to date;

b An interpretation of those results and suggestions for improvement to the Site operations;

c A programme for on-going monitoring including the reporting of results; and

d A programme for the on-going maintenance of the stormwater management and treatment systems.

Groundwater Monitoring and Contingency Plan (GWMCP)

382 At least three months prior to the commencement date, a final Groundwater Monitoring and Contingency Plan (GWMCP), incorporating a Groundwater Monitoring Programme (GMP), to assess the ongoing adequacy of all water quality management practices shall be developed and submitted to Auckland Council for certification. At least 30 days prior to submission to Auckland Council for certification, the Consent Holder shall provide a copy of the draft GWMCP to the TWEC and Watercare Services Limited (WSL) for feedback. The GWMCP submitted to Council shall record any feedback received from WSL and an explanation for any recommendations which have not been adopted. The GWMCP shall include, but not be limited to:

a Up-gradient and down-gradient groundwater monitoring bore locations and details, in line with Table 8 above at Condition 327;

b Methods and procedures for water quality sampling;

c Ongoing monitoring of water levels and water quality parameters shall be detailed in the GWMCP;

d Identified trigger levels for each of the parameters provided in the GWMCP (preliminary trigger levels are set out in Part J). Trigger levels for contaminants not included in the GWMCP shall be based on statistical margins from baseline results or based on a percentage of relevant guidelines;

e Guidelines for the determination of whether leachate contamination of groundwater is occurring;

f Contingency plans for remedial actions should contamination of groundwater by leachate or other pollutants associated with the landfill and activities on the Site associated with this consent be detected;

g Stream baseflow monitoring in adjoining catchments, trigger levels for action and contingency response approach;

h The methods and procedures for investigating and reporting groundwater monitoring results to Council; and

Commented [RMcV48]: Preliminary groundwater trigger levels are set out in Part J. It is intended that these trigger levels will be finalised in due course, subject to WM and its experts being able to confirm these as final

i The response if a bore structure fails.

383 The GWMCP shall be implemented after the Landfill Commencement Date.

383A Contingency measures should leachate contamination occur are expected to include:

a potential expansion of the groundwater monitoring programme; and

b design and implement case-specific remediation which may include reconfiguration of daily waste placement to reduce leachate and de-watering of wells for local reversal of hydraulic gradient.

Commented [RMcV49]: New condition to include reference to potential contingency measures in the event leachate contamination of groundwater is detected

Pest Control Plan – Landfill Operations

384 A Pest Control Plan - Landfill Operations (PCPO) shall be submitted to Council for certification at least three months prior to the Landfill Commencement Date. The purpose of the PCPO is to control unwanted weeds, plant disease, vermin and predators that could be attracted to the operating landfill, and to prevent populations from being established.

Advice Note: This plan applies specifically to the landfill operational areas. The broader pest management for the project is described in conditions 102 – 110.

385 The PCPO shall include methods specifically for controlling rats, feral cats and seagulls within the landfill valley. Control methods for these pests may include physical controls such as fencing or traps, shooting or bait.

Advice Note: Appropriate control methods shall be selected to control red billed gulls to avoid killing or harming them.

386 The PCPO shall be implemented from the Landfill Commencement Date to prevent pest populations from being established at the Site, and form part of the LMP as set out in Conditions 356 to 360

Leachate Monitoring and Contingency Plan

387 The Consent Holder shall provide a Leachate Monitoring and Contingency Plan (LMCP) for certification by Council at least three months prior to the Landfill Commencement Date. The LMCP shall describe in greater detail proposals for water chemistry monitoring, detection limits, methods of analysis and units of measurement for all parameters listed in Conditions. The LMCP shall:

a Include methods for managing the collection, treatment and disposal of leachate to manage potential adverse effects;

b Specify methods for managing the collection of leachate, including pump out of sumps, regime of maintenance checks on integrity of pipes, and management of trucks to prevent spills;

c Include methods for disposal of leachate and any by-products from leachate treatment, including any measures to manage the process and potential adverse effects;

d Include detection limits, methods of analysis and units of measurement for all parameters;

e Describe procedures for water chemistry, groundwater level and leachate level monitoring;

f Specify the methods of analysis for samples taken in accordance with these special conditions;

g Specify the units of measurement for reporting of analysis of water samples;

h Specify the detection limits for analysis of water samples;

i Summarise the results of baseline monitoring;

j Summarise how the results of the leachate levels in the landfill will be compared to ground water levels outside the landfill;

k Provide a definition of leachate contamination;

l Contain guidelines for procedures to determine whether leachate contamination is occurring;

m State the sources of the criteria and water quality standards used as a basis for the definition of leachate contamination;

n Define the circumstances and times when notification to Council is required;

o Procedures or systems will also be implemented to monitor and identify potential leachate breakouts or contamination of surface water including:

  i Weekly inspections of the landfill surface to look out for any evidence of leachate breakouts and any malfunctioning or leaking associated with the reticulation system;

  ii Continuous monitoring of conductivity at the inlet to the ponds as an indicator of the presence of leachate in surface water including automated notification from Site operated telemetry system if pond inlet conductivity exceeds the trigger limits; and

  iii Monitoring of contaminants at pond outlets.

p Provide contingency plans for mitigation and remedial actions should leachate contamination occur.

387A Contingency measures should leachate contamination occur are expected to include:

a reviewing stormwater controls and diversion flow paths to ensure stormwater runoff is being managed effectively;

b increasing the capacity of leachate treatment via on-site methods and off-site carting;

c temporarily increase leachate reinjection to higher locations in the landfill in tandem with increased pumping; and

d providing temporary extra storage capacity for pumped leachate coupled with increased pumping.

Commented [RMcV50]: New condition to include reference to potential contingency measures in the event leachate contamination is detected

388 The testing suite described in the LMCP is to include (but not limited to):

Table 15: Leachate monitoring

Quarterly (including annual)	**Annual only**
Metals for which there are leachability limits ('Total' concentrations to be measured in the case of leachate): • Arsenic • Boron • Cadmium • Copper • Chromium • Lead • Nickel • Mercury • Selenium • Zinc	Nitrate and nitrite BOD and COD PFAS, including PFOA Brominated flame retardants Volatile organic compounds, including: • Benzene, toluene, ethylbenzene, xylenes • Chlorinated solvents SVOC suite, including: • Organochlorine pesticides, including DDT-compounds • Polycyclic aromatic hydrocarbons Other compounds in NZ DWS suite: • Antimony • Barium • Cyanide • Iron • Manganese • Molybdenum • Nickel • Selenium • Silver
Other leachate quality parameters: • pH • Ammonia • Conductivity • Potassium • Chloride • Sodium • Sulphide • Total petroleum hydrocarbons (TPH) • Temperature	

	• Sodium • Potassium • Sulphate • 1,4-dioxane

Streamworks Methodology Management Plan - Seasonal Construction

389 Prior to any works within a specific stream or wetland commencing, a detailed Stream and Wetland Works Methodology Management Plan (SWMMP) shall be prepared, submitted to, and certified by Council. The objective of the Stream and Wetland Works Methodology Management Plan (SWMMP) is to set out the specific measures to be implemented during reclamation and culvert installation to minimise the discharge of sediment from the works area and to minimise effects on native freshwater fauna, and to ensure compliance with the limits and standards set in Condition 389A

389A The SWMMP shall include the following specific limits and requirements which all streamworks undertaken on Site must comply with:

a No stream or wetland works on the subject site shall be undertaken between 1 May and 30 September in any year, without the prior written approval of Council.

b Dewatering of streams and wetlands as authorised by this consent shall only be carried out after native fish and Hochstetter frog capture and relocation has been undertaken in accordance with the certified Native Freshwater Fish and Fauna Management Plan.

c Except for streams being removed, no machinery shall enter the wetted cross section of the bed of any stream at any time. All machinery shall be operated (including maintenance, lubrication and refuelling) in a way which ensures no hazardous substances such as fuel, oil or similar contaminants are discharged. In the event that any discharge occurs, works shall cease immediately, and the discharge shall be mitigated and/or rectified to the satisfaction of Council. Refuelling, lubrication and maintenance activities associated with any machinery should be carried out away from any water body with appropriate methods in place so if any spillage does occur that it will be contained and does not enter the water body. Maintenance / servicing areas should be detailed in the final Streamworks and Wetland Works Methodology Management Plan.

389B The streamworks methodology shall include but is not limited to:

a Methodologies and erosion and sediment control measures specific to the stream or wetland works being undertaken (providing location, dimensions, capacity, supporting calculations and design drawings) and confirmation that all controls are in accordance with industry best practice or the guidance contained in GD05, whichever higher standard is applicable;

b Timing and duration of works (in relation to the staging and sequencing of both stream and wetland works and earthworks), including scheduling at times when normal (for the time of year) in-stream flows can be diverted around the works and a four-day weather forecast predicts no rainfall;

c Reference and adherence (where applicable) to the Native Freshwater Fish and Fauna Management Plan required by condition (Condition 85);

d Contingency plans and measures, including stabilisation of works areas over night or during rain;

e Monitoring and maintenance requirements for the proposed erosion and sediment controls; and

f Permanent stabilisation measures of stream bed and banks upon completion of the specific works.

Advice Note: The streamworks methodology may be submitted for the whole Site or as a number of plans for specific works areas to allow for different methods within different areas and different timing/staging of works.

390 Streamworks shall only be carried out in accordance with the approved Streamworks Methodology required in Condition 389.

391 Prior to the commencement of works within streams or wetlands as part of the Initial Site Construction Works (i.e. bridge and culvert construction, and reclamation), the Consent Holder shall hold a pre-start meeting that:

a Is located on the subject site;

b Is scheduled not less than five days before the anticipated commencement of streamworks;

c Is notified to TWEC not less than one week prior to the meeting to enable representation from TWEC, if they wish to attend;

d Includes Council; and

e Includes representation from the contractors who will undertake the works.

The meeting shall discuss the erosion and sediment control measures and the streamworks methodologies and shall ensure all relevant parties are aware of and familiar with the necessary conditions of this consent.

391A The following information shall be made available at the pre-start meeting:

a Timeframes for key stages of the works authorised under this consent;

b Resource consent conditions;

c Native Freshwater Fish and Fauna Management Plan'; and

d Streamworks Methodology including associated site-specific erosion and sediment control plans.

Advice Note: Pre-start meetings can be staged in relation to specific works areas. To arrange the pre-start meeting please contact the Council on monitoring@aucklandcouncil.govt.nz or 09 301 0101. The conditions of consent should be discussed at this meeting. All additional information required by the Council should be provided 2 days prior to the meeting.

Part G – Aftercare Conditions

392 The Consent Holder shall adopt a minimum post-closure aftercare period of 30 years. Monitoring and maintenance requirements for the aftercare period shall be set out in the Post Closure Management Plan required by Condition 396. The term of the aftercare period may be reduced in accordance with the provisions of Condition 396.

393 At the time of closure of the landfill the Site shall be restored in accordance with the LVMP without undue delay.

Leachate and Landfill Gas collection and disposal

394 The Consent Holder shall have a continuing responsibility for leachate and gas collection and disposal beyond the operating life of the landfill as a disposal facility, as described in Conditions 396 and 397.

395 The consent holder shall produce a report at the end of the post-closure aftercare period which shall demonstrate that the leachate and landfill gas no longer presents any unacceptable risk to the environment to the satisfaction of the Council and TWEC. This condition is offered on an *Augier* basis.

Aftercare / Post Closure Management Plan

396 At least 12 months prior to the reasonably projected landfill closure date, the Consent Holder shall provide a Post Closure Management Plan (PCMP) for certification by Council that has been developed by the Consent Holder in conjunction with the TWEC. The objective of the PCMP is to describe the measures to be taken to stabilise the Site and maintain environmental controls including stormwater, leachate and landfill gas collection and treatment. The Consent Holder shall adhere to and maintain the PCMP for the duration of the post-closure aftercare period. The PCMP shall be updated as necessary to reflect any changes under items set out in Condition 397, and any updates shall be submitted to Council for certification prior to implementation

397 The PCMP shall include details of:

a Ongoing measures for collection and disposal of leachate and landfill gas;

b Ongoing monitoring and reporting of groundwater, surface water, landfill gas and cultural indicators;

c Proposed planting of the landfill cap;

d Proposed access and use of the Site, including consideration of public access to the Site whilst limiting activities to avoid damage to the final cap and gas extraction infrastructure;

e Monitoring of site integrity, including repairs to the final cover system; contingency measures in case of natural hazards, and maintenance and control of vegetation;

f Contact arrangements for Council and adjacent property owners to maintain communications with aftercare operations personnel; and

g The proposed shaping, contouring and planting of any remaining soil on the Main Stockpile location.

Part H – General Advice Notes

1 The council may at any time undertake source emission testing and/or any other monitoring to ensure compliance with the conditions of this consent. The Consent Holder is advised that they will be required to pay for the costs of this monitoring required pursuant to section 36(5) of the RMA.

2 For the purpose of compliance with conditions of consent, "the Council" refers to the council monitoring inspector unless otherwise specified. Please email monitoring@aucklandcouncil.govt.nz to identify your allocated officer.

3 The council acknowledges that the Management Plans are intended to provide flexibility both for the Consent Holder and the council for the management of the environmental effects of the landfill. Certification of the Management Plans by the council relates only to those aspects of the management plan that are relevant under the RMA. The certification does not amount to an approval or acceptance of suitability by the council of any elements of the management plan that relate to other legislation, for example, but not limited to, the Building Act 2004 or the Health and Safety at Work Act 2015.

4 The Heritage New Zealand Pouhere Taonga Act 2014 (hereafter referred to as the Act) provides for the identification, protection, preservation and conservation of the historic and cultural heritage of New Zealand. All archaeological sites are protected by the provisions of the Act (section 42). It is unlawful to modify, damage or destroy an archaeological site without prior authority from Heritage New Zealand Pouhere Taonga. An Authority is required whether or not the land on which an archaeological site may be present is designated, a resource or building consent has been granted, or the activity is permitted under the Auckland Unitary Plan Operative in part (November 2016).

According to the Act (section 6) archaeological site means, subject to section 42(3) –

h. any place in New Zealand, including any building or structure (or part of a building or structure), that –

i. was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where the wreck occurred before 1900; and

ii. provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand; and

i. includes a site for which a declaration is made under section 43(1)

It is the responsibility of the Consent Holder to consult with Heritage New Zealand Pouhere Taonga about the requirements of the Act and to obtain the necessary Authorities under the Act should these become necessary, as a result of any activity associated with the consented proposals.

For information please contact the Heritage New Zealand Pouhere Taonga Northern Regional Archaeologist – 09 307 0413 / archaeologistMN@historic.org.nz.

5 Māori artefacts such as carvings, stone adzes, and greenstone objects are considered to be tāonga (treasures). These are taonga tūturu within the meaning of the Protected Objects Act 1975 (hereafter referred to as the Act).

According to the Act (section 2) taonga tūturu means an object that –

j. relates to Māori culture, history, or society; and

k. was, or appears to have been –

i. manufactured or modified in New Zealand by Māori; or

ii. brought into New Zealand by Māori; or

iii. used by Māori; and

l. is more than 50 years old

The Act is administered by the Ministry of Culture and Heritage. Tāonga may be discovered in isolated contexts, but are generally found within archaeological sites.

The provisions of the Heritage New Zealand Pouhere Taonga Act 2014 in relation to the modification of an archaeological site should be considered by the Consent Holder if tāonga are found within an archaeological site, as defined by the Heritage New Zealand Pouhere Taonga Act 2014.

It is the responsibility of the Consent Holder to notify either the chief executive of the Ministry of Culture and Heritage or the nearest public museum (for Auckland this is the Auckland War Memorial Museum), which shall notify the chief executive, of the finding of the taonga tūturu, within 28 days of finding the taonga tūturu; alternatively provided that in the case of any taonga tūturu found during the course of any archaeological investigation authorised by Heritage New Zealand Pouhere Taonga under section 48 of the Heritage New Zealand Pouhere Taonga Act 2014, the notification shall be made within 28 days of the completion of the field work undertaken in connection with the investigation.

Under section 11 of the Act, newly found taonga tūturu are in the first instance Crown owned until a determination on ownership is made by the Māori Land Court.

For information please contact the Ministry of Culture and Heritage – 04 499 4229 / protected-objects@mch.govt.nz.

6 *The road stopping process needs to be completed and an unconditional agreement to purchase the land which was previously legal road must be in place before any works or occupation by landfill operations occur on those legal roads, unless otherwise agreed with Auckland Transport.*

Part I – Resource Consent Numbers and Associated Activities

Parts A to H apply to the following consents and activities.

Land use consents (s.9) – LUC60339671

Land Disturbance – District

- The undertaking of earthworks over an area of approximately 136.4ha within a rural zone.
- The undertaking of earthworks involving a volume of approximately 5.5 million m^3 within a rural zone.

Vegetation Management and Biodiversity

- The removal of approximately 5.5ha of contiguous indigenous vegetation within a site outside the rural urban boundary.
- The removal of vegetation within a riparian area and within a Natural Stream Management Area Overlay.
- The removal of vegetation within 10m of a rural stream within the Rural – Rural Production Zone.
- The removal of vegetation within 20m of a natural wetland.

Infrastructure

- The provision of an electricity generating facility within a rural zone.

Transport

- The construction and use of a vehicle crossing from SH1, being a situation where a vehicle access restriction applies.

Natural Hazards and Flooding

- The provision of new structures and buildings within a flood plain.
- Diverting or reducing the capacity of an overland flow path.
- The provision of new structures and buildings within an overland flow path.
- The provision of new infrastructure within a flood plain and an overland flow path.

Rural Zones

- The establishment of a managed fill in the Rural – Rural Production Zone.
- The establishment of a landfill in the Rural – Rural Production Zone.

Land Disturbance – Regional

- Earthworks over an area greater than 2,500m^2 where the slope is greater than 10 degrees within a rural zone.

- Earthworks over an area greater than 2,500m^2 within a sediment control protection area within a rural zone.

Industrial and Trade Activities

- The use of the site for a new industrial or trade activity, being a landfill, which is listed as high risk in Table E33.4.3.

Streamworks consent (s.13 and s.14) – LUS60339672

- The crossing of a wetland with a road.

- The placement of felled logs within wetlands to improve biodiversity values, being an activity for the purposes of habitat enhancement.

- The diversion of streams to a new course and associated disturbance and discharge of sediment.

- The construction of culverts within streams that are more than 30m in length when measured parallel to the direction of water flow and located outside a prescribed overlay.

- The construction of a bridge within a Natural Stream Management Area.

- The reclamation of approximately 13,915m of intermittent and permanent streams.

- The reclamation of approximately 1.37ha of wetlands.

Water permit (s.14) – WAT60339673, WAT60343935, WAT60343932, WAT60343937, WAT60343938, WAT60343938 & WAT60343939

WAT60339673

- The take and use of up to 150m^3 per day of surface water from the proposed stormwater pond / dams for non-potable water use.

WAT60343935

- The take and use of up to 50m^3 per day of groundwater for potable water use.

WAT60343932

- The diversion of groundwater associated with excavations that exceed the permitted activity standards in terms of the duration of the works and the depth of excavation relative to groundwater levels.

- Dewatering associated with a groundwater diversion that does not meet the associated permitted activity standards as set out above.

WAT60343937

The provision of an off-stream dam (stormwater pond 2) that does not meet the permitted activity standards set out in E7.6.1.11 and E7.6.1.12, as it is greater than 4m in height and will impound more than 20,000m^3 of water.

WAT60343938

- The provision of an off-stream dam (stormwater pond 3) that does not meet the permitted activity standards set out in E7.6.1.11 and E7.6.1.12, as it is greater than 4m in height and will impound more than 20,000m^3 of water.

WAT60343939

- The provision of an off-stream dam (stormwater pond 5) that does not meet the permitted activity standards set out in E7.6.1.11 and E7.6.1.12, as it is greater than 4m in height and will impound more than 20,000m^3 of water.

Discharge permit (s.15) – DIS60343735

- The diversion and discharge of stormwater from more than 5,000m^2 of impervious area outside an urban area.

Discharge permit (s.15) – DIS60343736

- Discharges from a managed fills.
- Discharges from a new landfill.
- Discharges associated with the placement and compaction of material associated with a landfill.

Discharge permit (s.15) – DIS60343780

- Discharges to air from evaporation of leachate.
- Discharges to air from the combustion of landfill gases.
- Discharges to air from the bin exchange area, which functions as a refuse transfer station.
- Discharges to air from a landfill that do not comply with standards.

Discharge permit (s.15) – DIS60343781

- The discharge of contaminants from a new industrial or trade activity, being a landfill, which is listed as high risk in Table E33.4.3.

Part J – Interim Trigger Levels

Interim Groundwater Trigger Levels

Groundwater quality parameter	Units	BH1		BH2		BH3		BH5		BH6		BH7		BH9		BH10		BH13		BH14		TB01	
		TL1	TL2	TL1	TL2	TL1	TL2	TL1	TL1	TL2	TL2	TL1	TL2	TL1	TL2	TL1	TL2	TL1	TL2	TL1	TL2	TL1	TL2
Alkalinity	g CaCO3/m^3	115	132	495	588	277	301	162	173	604	663	112	114	242	285	121	126	145	166	240	262	366	380
Total ammoniacal nitrogen	g N/m^3	0.01[2]	0.01[2]	1.91	2.28	2.59	2.79	0.09	0.11	4.15	4.49	0.060	0.073	0.52	0.67	0.031	0.036	0.019	0.022	0.052	0.057	4.1	4.39
Arsenic dissolved	g As/m^3	0.0057	0.0072	0.0032	0.0036	0.0038	0.004	0.001[1]	0.001[1]	0.0033	0.0039	0.0016	0.0017	0.0022	0.0025	0.003	0.0032	0.001[1]	0.001[1]	0.0046	0.0056	0.004	0.0046
Boron	g B/m^3	0.026	0.027	0.136	0.155	0.377	0.40	0.038	0.042	0.11	0.127	0.22	0.237	0.079	0.097	0.228	0.239	0.077	0.092	0.062	0.065	1.02	1.07
Calcium[1]	g Ca/m^3	13.6	13.9	89	108	39	41	42	47	137	164	7	8	54	66	6	7	35	40	49	51	37	39
Chloride	g Cl/m^3	22.6	23.1	39	43	40	41	33	37	23	26	36	37	48	59	46	47	34	38	31	32	30	32
COD	g O/m^3	12	13	24	28	18	21	11	13	17	20	30	37	18	21	12	14	90	112	85	109	84	100
Electrical conductivity (lab)	mS/m	26	27	162	194	105	116	38	41	249	277	38	38	95	115	40	41	41	46	48	50	147	157
Copper dissolved	g Cu/m^3	0.0035	0.0043	0.0039	0.0047	0.001	0.0012	0.0044	0.0054	0.0039	0.0046	0.0016	0.0019	0.0051	0.0062	0.0029	0.0035	0.0021	0.0025	0.0054	0.0068	0.0015	0.0018
Total hardness	g CaCO3/m^3	72	75	222	268	96	102	166	192	345	413	20	22	137	165	16	18	108	120	147	154	92	95
Iron dissolved	g Fe/m^3	0.11	0.14	0.09	0.11	0.02	0.02	2.52	2.98	0.15	0.17	0.13	0.16	3.9	5.1	0.15	0.18	6.23	7.67	0.29	0.36	0.29	0.36
Lead dissolved	g Pb/m^3	0.00059	0.00073	0.0001[2]	0.0001[2]	0.0002	0.00022	0.00064	0.00079	0.0034	0.0043	0.0012	0.0015	0.0021	0.0027	0.0016	0.0020	0.0003	0.00036	0.00067	0.00082	0.0011	0.0013
Magnesium dissolved	g Mg/m^3	9.5	10.0	2.1	2.6	0.02[2]	0.02[2]	15.5	18.8	0.02[2]	0.02[2]	0.62	0.73	0.94	1.2	0.19	0.20	12.58	14.53	6.33	6.68	0.02[2]	0.02[2]
Manganese dissolved	g Mn/m^3	0.017	0.019	0.0014	0.0017	0.0005[2]	0.0005[2]	0.25	0.30	0.0043	0.0054	0.03	0.036	0.044	0.057	0.0037	0.0045	0.58	0.71	0.081	0.085	0.0019	0.0023
Nickel dissolved	g Ni/m^3	0.0033	0.0039	0.0013	0.0015	0.0005[2]	0.0005[2]	0.009	0.011	0.0017	0.0019	0.0008	0.0009	0.0014	0.0016	0.0005[2]	0.0005[2]	0.7	0.9	0.95	1.2	0.0019	0.002
Nitrate nitrogen	g N/m^3	18.41	23.75	20.47	26.37	1.25	1.61	4.66	5.95	0.08	0.1	0.12	0.15	0.86	1.02	0.52	0.6	4.21	5.33	14.82	19.23	0.021	0.025
pH (lab)		7.9	8.3	12.8	13.4	11.9	12.1	8.5	9.0	12.3	12.4	8.9	9.1	14.0	15.1	10.0	10.1	7.4	7.7	8.0	8.1	12.1	12.2
Potassium[1]	g K/m^3	1.42	1.45	2.81	3.25	0.91	0.99	5.78	7.04	1.34	1.51	0.43	0.48	1.0	1.12	0.63	0.71	4.49	5.47	0.35	0.37	1.12	1.22
Sodium[1]	g Na/m^3	22.1	22.6	130	149	103	110	54	62	157	167	88	92	100	122	94	99	55	65	55	57	156	163
Sulphate	g SO4/m^3	8.7	9.2	8.3	9.5	27.7	31.9	11.8	13.7	16.0	18.4	21.3	21.9	11.8	14.2	18.1	18.7	60.4	75.9	8.3	8.8	44.1	51.6
Zinc dissolved	g Zn/m^3	0.17	0.21	0.01	0.012	0.045	0.051	0.084	0.10	0.53	0.68	0.17	0.20	0.17	0.22	0.23	0.29	0.13	0.16	0.027	0.033	0.19	0.23

Notes:

TL1 – interim trigger level 1 based on mean +3 standard deviations of the baseline data as of December 2023, unless otherwise stated.

TL2 – interim trigger level 2 based on mean +4 standard deviations of the baseline data as of December 2023, unless otherwise stated.

1 – Interim trigger levels based on dissolved fraction.

2 – Interim TL1 based on the laboratory limit of detection because all samples to date record concentration below the laboratory limit of detection.

At locations where parameters have been recorded with both detectable and non-detectable concentrations the non-detectable concentration has been used to derive the interim trigger level.

Interim Surface Water Trigger Levels

Parameter	Units	SW1A	SW2A	SW3A	SW4A
Sum of Anions	meq/L	2.37	1.98	2.18	2.20
Sum of Cations	meq/L	2.79	2.10	2.28	2.30
Ion balance	%	90 to 110	90 to 110	90 to 110	90 to 110
Turbidity	NTU	50.2	30.5	38.4	33.5
pH	-	6 to 9	6 to 9	6 to 9	6 to 9
Total Alkalinity	g/m3 as CaCO3	84	55	58	58
Bicarbonate	g/m3	102	67	70	70
Total Hardness	g/m3 as CaCO3	73	57	62	63
Electrical Conductivity	mS/m	24	21	23	23
Total Suspended Solids	g/m3	52	65	65	34
Dissolved Aluminium	g/m3	0.40	0.64	0.40	0.41
Total Aluminium	g/m3	0.76	1.30	1.48	1.00
Total Boron	g/m3	0.94	0.94	0.94	0.94
Dissolved Calcium	g/m3	13.5	11.1	12.5	12.5
Total Calcium	g/m3	14.4	10.8	12.4	12.8
Dissolved Iron	g/m3	8.8	0.73	0.64	0.55
Total Iron	g/m3	21.8	1.46	1.86	1.56
Dissolved Magnesium	g/m3	9.5	6.9	7.7	7.6
Total Magnesium	g/m3	9.5	7.1	7.4	7.6
Dissolved Manganese	g/m3	1.9	1.9	1.9	1.9
Total Manganese	g/m3	1.9	1.9	1.9	1.9
Dissolved Potassium	g/m3	1.70	1.65	1.77	1.64
Total Potassium	g/m3	1.73	1.69	1.82	1.66
Dissolved Sodium	g/m3	22	22	23	23
Total Sodium	g/m3	21	22	22	23
Chloride	g/m3	30	31	35	35
Total Ammoniacal-N	g/m3	0.9	0.9	0.9	0.9
Nitrite-N	g/m3	0.005	0.004	0.002	0.002
Nitrate-N	g/m3	0.364	0.151	0.102	0.080
Nitrate-N + Nitrite-N	g/m3	0.371	0.153	0.104	0.081
Total Phosphorus	g/m3	0.068	0.040	0.035	0.031
Sulphate	g/m3	8.3	7.3	8.0	7.6
BOD	g O2/m3	1.0	1.0	1.0	1.0
COD	g O2/m3	40	18	16	18
Oil and Grease	g/m3	9.0	7.0	5.8	11.3
Total Phenols	g/m3	0.32	0.32	0.32	0.32
Dissolved Arsenic	g/m3	0.013	0.013	0.013	0.013
Dissolved Cadmium	g/m3	0.00025	0.00028	0.00030	0.00030

Parameter	Units	SW1A	SW2A	SW3A	SW4A
Dissolved Chromium	g/m3	0.0013	0.0016	0.0011	0.0014
Dissolved Copper	g/m3	0.0014	0.0014	0.0014	0.0014
Dissolved Lead	g/m3	0.0047	0.0055	0.0062	0.0059
Dissolved Nickel	g/m3	0.0137	0.0152	0.0164	0.0160
Dissolved Zinc	g/m3	0.010	0.011	0.012	0.012
Hardness adjusted dissolved zinc	g/m3	0.010	0.011	0.012	0.012
Total Arsenic	g/m3	0.013	0.013	0.013	0.013
Total Cadmium	g/m3	0.00025	0.00028	0.00030	0.00030
Total Chromium	g/m3	0.0025	0.0031	0.0031	0.0032
Total Copper	g/m3	0.0015	0.0020	0.0023	0.0022
Total Lead	g/m3	0.0047	0.0055	0.0062	0.0059
Total Nickel	g/m3	0.0137	0.0152	0.0164	0.0160
Total Zinc	g/m3	0.010	0.011	0.012	0.012
Hardness adjusted total zinc	g/m3	0.010	0.011	0.012	0.012
SVOCs	g/m3	Detect	Detect	Detect	Detect
Di(2-ethylhexyl)adipate	g/m3	Detect	Detect	Detect	Detect
VOCs	g/m3	Detect	Detect	Detect	Detect