

19 September 2022

Malcolm Miller and Sven Exeter
Hawke's Bay Regional Council
Private Bag 6006
Napier 4142

Dear Malcolm and Sven,

RE: Ravensdown Ltd, APP-126684

Following various further discussions with mana whenua submitter representatives and Council advisors, and in anticipation of the pre-hearing meeting for the Ravensdown Ltd resource consent applications to be held on 27 September 2022, we enclose the following documents:

- Joint Witness Statement Outcomes and Actions Table
- Proposed Conditions (Tracked) - September 2022 version
- Proposed Conditions (Clean) - September 2022 version
- Source Control Management Plan - September 2022 version
- Water Discharge Adaptive Management Plan - September 2022 version
- Habitat Abundance Restoration Project Plan - September 2022 version

In addition to any matters to be discussed from this material, there are two outstanding matters from the expert conferencing to discuss at the pre-hearing meeting (see items 15 and 18 in the attached Joint Witness Statement Outcomes and Actions Table).

Ravensdown request that the Council provide this material to submitters ahead of the pre-hearing meeting, and we look forward to discussing any outstanding issues on the day.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Anita Anderson', with a stylized, cursive script.

Anita Anderson
Mitchell Daysh Ltd

Anita.Anderson@mitchelldaysh.co.nz



ATTACHMENT 1

Joint Witness Statement Outcomes
and Actions Table

**RAVENSDOWN LTD NAPIER WORKS SUSTAINABLE SITE PROJECT
JOINT WITNESS STATEMENT OUTCOMES AND ACTIONS TABLE
September 2022**

Technical Issue - Ravensdown Team to respond to Council Team

s42a Issue - Council Team to address in Officers Report

Planning / Legal Issue - Ravensdown to respond and / or address further in evidence

JWS Ref #	Technical Matters Not Agreed On	Summary of JWS discussion points and outcomes	Action to resolve / address matter
LAND AND WATER			
12	Use of bore supply	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> Use of groundwater to dilute the contaminant loading in the discharge in order to meet TANK limits. <p>Ravensdown expert responses:</p> <ul style="list-style-type: none"> Groundwater to be used across the site, not just for dilution. Proposed treatment and source control aims to eliminate need for dilution. Discharge hierarchy - land-based discharge preferred option. <p>Outcome:</p> <ul style="list-style-type: none"> JWS 12.2: Experts agreed that conditions can be looked at to manage the loads into the HARP wetland to prevent adverse 	<p>Bore water use is addressed in the proposed conditions for the HBRC water take consent (Appendix E of the application at page 20). The bore supply is not just used to meet TANK conditions. Rather the water is used for multiple purposes including manufacturing sulphuric acid and fertiliser, the treatment of stormwater (including sustaining constructed wetlands and maintaining crop cover over the land discharge area) and sustaining the HARP. The maximum weekly volumes of water that can be used for each purpose (and an annual volume in the case of sustaining the HARP) are set out at proposed condition 3 of the watertake consent (September 2022 version).</p> <p>It is proposed that the use of bore water to assist in the site stormwater and process water treatment will continue as required (subject to the limits in the consent) to ensure that discharge water quality is compliant over the term of the new consent. The ability to use bore water to assist in managing the discharge does not alleviate Ravensdown from its obligations in relation to the management of stormwater and process water on the site and in particular the obligations to adopt the water discharge hierarchy (proposed condition 1) and to implement the Adaptive Management Plan (proposed condition 2) and the Source Control Management Plan (proposed condition 12) of Appendix 1 - General Conditions Relating to Both Land and Water Discharge (September 2022 version).</p>

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		<p>outcomes and manage proposed outcomes.</p> <ul style="list-style-type: none"> JWS 12.3: This matter to be discussed further at the hearing. 	<p>Table 14 of the AEE shows that there will be a significant reduction in the load being discharged for each contaminant.</p> <p>Ravensdown have adopted the most conservative standards and targets for the receiving environment (including those that are not yet operative through the TANK process) as set out in Table 5 of the AEE (November 2021) and referenced in Table 1 of Appendix 1 - General Conditions Relating to Both Land and Water Discharge (September 2022 version) to acknowledge the community's expectation for longer term water quality improvements in the Waitangi Estuary and wider catchment, and Ravensdown's commitments in this regard are reflected in the proposed conditions of consent (also Table 1 of Appendix 1 - General Conditions Relating to Both Land and Water Discharge(September 2022 version).</p> <p>Ravensdown is unclear what further discussion on this subject can usefully be had at the hearing and requests clarification from the Council whether this is a matter which remains not agreed.</p>
13	Consideration of best practicable option	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> JWS 13.1: Mr Dempsey raised concerns about the BPO, a number of other treatment processes were identified in the s92 request from HBRC to the applicant and these were not included in the BPO. <p>Ravensdown expert responses:</p> <ul style="list-style-type: none"> A number of options were considered by Aurecon to select the BPO. - see Water Discharge Options Assessment report. 	<p>This is a legal / planning matter that was addressed in the s92 response regarding the s105 assessment.</p> <p>Adherence to the required water quality standards is ultimately the determinant of effects on the environment. All water treatment systems Ravensdown adopts must be designed by a suitably qualified professional engineer and Final Design Plans need to be certified by the Council to be consistent with the conditions of consent (proposed conditions 6 and 7 of Appendix 1 - General Conditions Relating to Both Land and Water Discharge (September 2022 version)). The treatment system must deliver the discharge standards set in the consent (Table 1 of Appendix 1 - General Conditions Relating to Both Land and Water Discharge (September 2022 version)) following completion of the Stage 2 improvements.</p>

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		<ul style="list-style-type: none"> Report provided to meet requirements of s105 assessment. <p>Outcome:</p> <ul style="list-style-type: none"> JWS 13.3: Mr Dempsey to supply Mr Delagarza with this list of alternatives and Mr Delagarza to provide a response to these alternatives for discussion at the hearing. 	<p>For the purposes of the hearing Ravensdown is not proposing to provide further 'up the pipe' information on different stormwater and process water management approaches and processes that may or may not achieve the required outcome and considers this is a matter not properly in issue for the purpose of determining Ravensdown's consent application.</p> <p>Ravensdown seeks confirmation from Council that discussion of alternative solutions to achieve the required discharge standards and timing in the consents will not be expected or required at the hearing.</p>
14	Separation of contamination sources	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> JWS 14.1: Mr Dempsey requested further discussion on the separation of contamination sources and source control as being essential for effective treatment. The management plan should not be an outcome, rather a way to measure. <p>Ravensdown expert responses:</p> <ul style="list-style-type: none"> Adaptive management strategy allows for monitoring and source control within the site. <p>Outcome:</p> <ul style="list-style-type: none"> JWS 14.3: The applicant is to proffer some conditions around monitoring and effectiveness and 	<p>The Source Control Management Plan ('SCMP') required by proposed Condition 13 of Appendix 1 - General Conditions Relating to Both Land and Water Discharge (September 2022 version) includes monitoring and reporting requirements (Section 6) where the results of air and water monitoring will be reviewed against the objectives and actions and therefore the effectiveness of the SCMP.</p> <p>The SCMP has been prepared in line with current BPO requirements and Environment Court practice to include objectives, methods and actions. The specific objectives of this SCMP are to:</p> <ul style="list-style-type: none"> To eliminate if possible, or otherwise minimise contamination at its source prior to entering the stormwater collection and on-site treatment systems. To eliminate if possible, or otherwise minimise fugitive emissions to the local air shed environment. To formalise ownership and timeframes for the agreed improvement actions. <p>No further conditions are proposed.</p>

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		provide these prior to the hearing.	
15	Receiving water quality and the current influence of Ravensdown	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> What is the influence of windblown contaminants on the water quality in the Waitangi Drain. <p>Ravensdown expert responses:</p> <ul style="list-style-type: none"> Other industries upstream will influence water quality. <p>Outcome:</p> <ul style="list-style-type: none"> JWS 15.4: Experts agreed that this is a potential issue, that there may be implications and possible flow on effects for the consent conditions. This matter to be discussed at the hearing 	<p>Dr Phillips and Dr Kelly met on 7 June 2022 to discuss this matter.</p> <p>Following this meeting Dr Phillips reviewed existing information and sent a summary email to Dr Kelly (Attachment 1). Dr Phillips concluded that:</p> <p><i>“any contamination of upstream sites resulting from wind-blown dust is unlikely to result in more than minor effects on the current state of the downstream receiving environment. In addition, the proposed treatments and source control improvements will result in markedly improved water quality in the discharge and reduce the potential for contamination from windblown dust entering adjacent waterways”.</i></p> <p>A meeting between S Smith, Dr S Kelly and Dr N Philips is planned for 20 September to discuss this item further.</p>
16	Other monitoring markers	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> Consider use of alternative markers (uranium) for monitoring of fluoride effects. <p>Ravensdown expert responses:</p> <ul style="list-style-type: none"> JWS 16.2: Dr Phillips stated that she was not willing to recommend to her client to do 	<p>Mr Smith has suggested sampling for uranium in sediments at previous meetings with Ravensdown. Dr Phillips did not agree with use of uranium as a marker at these previous meetings and stated this again at the expert conferencing.</p> <p>It is noted that uranium is not a required parameter for measurement in the current consent conditions however uranium was included as a parameter in the sediment monitoring in 2013 (as noted in the EAM report authored by Mr Smith).</p>

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		<p>any further monitoring at this stage, preferring to review the existing water quality information further before commenting.</p> <p>Outcome:</p> <ul style="list-style-type: none"> JWS 15.4: This matter to be discussed at the hearing if Mr Smith has further questions 	<p>Dr Phillips has reviewed this report, noting that fluoride was also measured at this time and that the pattern of concentrations was the same for both metals. The 2013 report did not include any discussion of the uranium results and subsequent monitoring reports did not include uranium monitoring.</p> <p>The proposed consent conditions include requirements to directly measure fluoride in air emissions and vegetation (see proposed conditions 16, 17, 27, 32-37, 41 and 46 of the air discharge consent (September 2022 version)), groundwater and crops (see proposed conditions 12 and 15 of the discharge to land consent (September 2022 version)), and the discharge pond outlet (see proposed conditions 16, 17 of Appendix 1 - General Conditions Relating to Both Land and Water Discharge (September 2022 version)). Monitoring of other markers such as uranium is considered unnecessary.</p> <p>No further conditions are proposed.</p>
17	Ecological and Habitat Values	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> The receiving environment is within a wetland system that has high ecological values and EIANZ criteria to determine the ecological value of the receiving environment is not considered appropriate. <p>Ravensdown expert responses:</p> <ul style="list-style-type: none"> The description of the existing environment could be broadened to the give more context to the application. The use of the EIANZ criteria appropriate in this context. 	<p>Dr De Luca has reviewed the revised EIANZ criteria for marine ecological value (currently awaiting publication) and provided a memo detailing her updated assessment of the value of the receiving environment and the associated effects of a discharge from Ravensdown (Attachment 2).</p> <p>Based on the revisions to the criteria, Dr Deluca agrees with Dr Kelly and Mr Smith that the marine ecological values would sit within the Moderate value category rather than Low as detailed in the 2021 effects assessment. Dr Deluca also considers that if marine/estuarine values were assessed as moderate and the magnitude of effect remains negligible, the overall level of effect is still very low.</p>

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		<p>Outcome:</p> <ul style="list-style-type: none"> JWS 17.3: The outcome is Dr Kelly and Mr Smith disagree with Dr De Luca on the use of the EIANZ criteria. This matter is not resolved. 	
18	Cumulative contaminant effects, Whole Effluent Toxicity (WET) testing and mixing zone dilution	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> JWS 18.1: The majority of this matter was resolved, Mr Smith had a question about the WET testing and at what point the dilution of the mixing zone adequately attenuates the discharge so it does not affect the ecology. <p>Ravensdown expert responses:</p> <ul style="list-style-type: none"> JWS 18.2: Mr Delagarza noted that there is an interlock pump that prevents discharge from the pond when the pH is outside of the approved range <p>Outcome:</p> <ul style="list-style-type: none"> JWS 18.3: Mr Smith to confirm with Ravensdown at or before the hearing that the interlock system is working. 	<p>Shade Smith visited the Ravensdown site to view the view interlock system on 19 September 2022.</p>

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19	Proposed standards and how these will be met.	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> Ability for discharge to meet proposed water quality targets, in particular aluminum and ammonia which already exceed guidelines. <p>Ravensdown expert responses:</p> <ul style="list-style-type: none"> Concentrations are also high upstream and while the concentrations will exceed the guidelines, the assessment is that overall the effects are no more than minor. Source control will also manage effects. Dr Phillips recommended that the water quality target was changed to Total Ammoniacal Nitrogen following the question in the s92 request regarding use of unionised ammonia in the proposed conditions. <p>Outcome:</p> <ul style="list-style-type: none"> JWS 19.4: Both parties acknowledged that there are potential impacts that could occur from aluminum. Dr Phillips recommends that the applicant change the water quality target to be for Total Ammoniacal 	<p>Ravensdown cannot be held responsible for the management of other discharges upstream of the site that may be contributing to high aluminum and ammonia concentrations in the surrounding waterways. Ravensdown has met with the HBRC to understand the impacts of other discharges within the catchment and note that the HBRC are working toward a consent application for the pump station which will provide for further management of upstream sources. Ravensdown is willing to work with the Council and other industries within Awatoto to encourage other parties to also make improvements to the quality of discharges within the estuarine environment.</p> <p>As noted above the discharge parameter limits included in the proposed consent conditions (condition 16 of Appendix 1 - General Conditions Relating to Both Land and Water Discharge (September 2022 version)) are based on the most conservative standards and targets for the receiving environment in the relevant planning documents. These consent limits are the basis for the treatment system design.</p> <p>The ammoniacal nitrogen limits included in Table 1 of proposed condition 16 of Appendix 1 - General Conditions Relating to Both Land and Water Discharge (September 2022 version)) have been calculated from the target of 0.1 mg/L in the Regional Coastal Environmental Plan using the recommended dilutions.</p> <p>The source control set out in the SCMP will further manage effects from the site. As noted in 15 above, Dr Phillips concludes that <i>any contamination of upstream sites resulting from wind-blown dust is unlikely to result in more than minor effects on the current state of the downstream receiving environment. In addition, the proposed treatments and source control improvements will result in markedly improved water quality in the discharge and reduce the potential for contamination from windblown dust entering adjacent waterways.</i></p>

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		<p>Nitrogen. To be discussed further at the hearing.</p>	<p>Ravensdown considers the proposed ammoniacal nitrogen discharge concentration limits (any tide and high tide) are appropriate based on the Regional Coastal Environment Plan standard of (0.1mg/L).</p> <p>It is noted that this was incorrectly referenced in Table 5 of the AEE which references this standard coming from the TANK Plan Change, s42A Addendum report, Waitangi Estuary Water Quality. This is a refence error only and of no consequence to the dilution calculations or assessment provided.</p>
20	Monitoring conditions	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> The details of the proposed monitoring is not clear in the application. <p>Ravensdown expert responses:</p> <ul style="list-style-type: none"> There is a general reference to the monitoring in the adaptive management plan. <p>Outcome:</p> <ul style="list-style-type: none"> JWS 20.3: Applicant to proffer monitoring conditions, including some generic monitoring conditions for the HARP, some source control measurements and to make sure these conditions address the different monitoring requirements. 	<p>The proposed consent conditions and the management plans (September 2022 version) detail a comprehensive suite of monitoring requirements related to the discharge of the treated stormwater and process water to water, land and groundwater.</p> <p>These are set out in the following proposed conditions:</p> <p>Discharge to Land:</p> <ul style="list-style-type: none"> Soil moisture monitoring - conditions 7 and 8 Soil chemistry monitoring - conditions 8 to 11 Groundwater quality monitoring - conditions 12 to 15 Foliage monitoring - conditions 16 and 17 Appendix 1 - General Conditions Relating to Both Land and Water Discharge (September 2022 version)) <p>Discharge to Surface Water and Groundwater:</p> <ul style="list-style-type: none"> Appendix 1 - General Conditions Relating to Both Land and Water Discharge (September 2022 version)) <p>Appendix 1 - General Conditions Relating to Both Land and Water Discharge (September 2022 version):</p> <ul style="list-style-type: none"> Adaptive Management Plan Process - conditions 2 to 4 Source Control Management - condition 13 Habitat Abundance Restoration Project - conditions 14 and 15

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			<ul style="list-style-type: none"> • Discharge Monitoring - condition 17 • Reporting (of compliance and adaptive management plan monitoring)- condition 18 <p>Watertake:</p> <ul style="list-style-type: none"> • Volume of take - Condition 8 <p>Watertake - Construction Dewatering</p> <ul style="list-style-type: none"> • Construction Environmental Management Plan – Conditions 2 to 4 <p>Discharge to Land and Water – Construction Dewatering</p> <ul style="list-style-type: none"> • Construction Environmental Management Plan – Conditions 2 and 3
21	Classification of the waste processes as stormwater	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> • Clarification of processes producing wastewater and relative definitions in TANK. <p>Ravensdown expert responses:</p> <ul style="list-style-type: none"> • The review of the contaminant sources showed that the industrial component of the wastewater was smaller in comparison to stormwater. • TANK policies reference stormwater contamination. <p>Outcome:</p> <ul style="list-style-type: none"> • JWS 21.3: Mr Dempsey to talk to Council Planner, Mr Sven Exeter, about these definitions prior to the hearing. 	<p>Ravensdown has provided a comprehensive assessment of the onsite process and stormwater processes and the relevant Plan standards in section 5 of the AEE and the s92 response.</p> <p>Nick Dempsey and Sven Exeter to review Aurecon s92 response memo and section 5 of the AEE for full description of site stormwater and process water system and discuss with Ravensdown if further questions.</p>

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22	Length of mixing zone	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> Mr Smith suggested a reduction in the length of the mixing zone over time. <p>Ravensdown expert responses:</p> <ul style="list-style-type: none"> Any reduction should be driven by data, as the RMA allows for reasonable mixing. With an improvement in discharge quality and monitoring of the mixing zone, the length could be reduced. <p>Outcome:</p> <ul style="list-style-type: none"> JWS 22.3: Dr Kelly suggested that a review of the mixing zone and possible reduction could be added to the adaptive management reporting conditions. 	<p>Table 1 of proposed condition 16 in Appendix 1 - General Conditions Relating to Both Land and Water Discharge (September 2022 version) includes a revised advice note where at the completion of Stage 2 of the Adaptive Management Plan, Ravensdown will undertake a dye study to recalculate the zone of reasonable mixing once the new HARP wetland is established.</p>

AIR QUALITY, VEGETATION AND HUMAN HEALTH

11	Fugitive Particulate Control and Monitoring from the Manufacturing Plant	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> Concerns regarding control of fugitive particulates on public areas and associated monitoring and trigger values. 	<p>Ambient and offsite monitoring conditions (proposed Condition 32 to 41) include monitoring of F, SO₂ and PM_{2.5}. Ravensdown has added the monitoring of PM₁₀ to this monitoring (see proposed conditions 39 and 44 of the Discharge to Air consent (September 2022 version)).</p> <p>The SCMP required by proposed Condition 13 of Appendix 1 - General Conditions Relating to Both Land and Water Discharge includes monitoring</p>
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		<ul style="list-style-type: none"> • Suggestion that WHO 2021 guidelines should be adopted. • Recommendation that the Bradley Mills stacks should be increased in height and discharged vertically. <p>Ravensdown expert responses:</p> <ul style="list-style-type: none"> • Ravensdown have proposed a SCMP to aid in the management of offsite effects and reduce fugitive dust and direct onsite monitoring. • WHO 2021 guidelines are not relevant to the monitoring at the former Winstone site. • Timing for the changes to Bradley Mills is unknown. <p>Outcome:</p> <ul style="list-style-type: none"> • JWS11.26 No resolution on discussion. Mr Curtis and Chilton agreed implementation of monitoring can be addressed through conditions and then through a management plan. However, there was disagreement on how complete the management plan should be. Mr Curtis' preference is a draft management plan ahead of the hearing. 	<p>and reporting requirements (Section 6) where the results of air (and water) monitoring will be reviewed against the objectives and actions and therefore the effectiveness of the SCMP.</p> <p>Noting that there was no reference to the SCMP in the in the application version of the proposed conditions of the Air Discharge consent (November 2021). A reference to proposed condition 13 of Appendix 1 - General Conditions Relating to Both Land and Water Discharge (September 2022 version) has been added to proposed condition 21 of the Discharge to Air consent (September 2022 version).</p> <p>There was discussion at the expert conferencing relating to the WHO 2021 guidelines. It is noted that these have been considered in the assessment undertaken by Tonkin + Taylor however exposure at the former Winstone site is not likely to be relevant in its current use and classification as an industrial zone site under the Napier District Plan as no one is likely to be there routinely for 24-hours per day or a full year. It is also noted that the Draft Napier District Plan (2021) maintains the industrial zoning for this site, therefore Ravensdown has not proposed any additional monitoring in relation to the WHO 2021 guidelines.</p> <p>It is also noted that following the recommendations from Mr Chilton, Ravensdown are undertaking modifications to the Bradley Mill Stacks to improve dispersion of particulate. No changes to the proposed consent conditions are required or proposed in order to implement this work.</p>

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12	Timing of mitigation as set out in the Source Control Management Plan.	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> Mr Curtis asked if Mr Chilton was comfortable with the timing of mitigation outlined in the SCMP. <p>Ravensdown expert responses:</p> <ul style="list-style-type: none"> Key priority should be on measures immediately and around the manufacturing plant. <p>Outcome:</p> <ul style="list-style-type: none"> JWS12.5 Mr Curtis and Mr Chilton agree that around the manufacturing plant is the priority, where crushing and grinding occur. 	<p>Ravensdown considers that the priority for source control is to manage the fugitive particulate material from storage and handling of raw rocks. This is reflected in the Site Improvement Action Schedule provided in the SCMP where “High Priority” actions have been given a 6 month or 1 year target for completion based on the following (see section 6 of the SCMP):</p> <ul style="list-style-type: none"> The risk of contamination of stormwater, or fugitive airborne release. The resulting impact on water or air quality. The estimated cost of completion. The estimated time required for completion. <p>This short timeframe reflects a significant commitment from Ravensdown who have already initiated site improvement actions in places despite noting that the actions in the SCMP would be implemented following the grant of consent.</p> <p>The annual review of the SCMP will ensure that Ravensdown continue to consider any changes at the site and the priority of the actions.</p>
13	Monitoring of hydrogen fluoride from the manufacturing stack.	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> Continuous monitoring instruments are available. <p>Ravensdown expert responses:</p> <ul style="list-style-type: none"> Understood there were some issues with continuous monitoring for phosphate manufacturing. <p>Outcome:</p>	<p>Ravensdown’s current stack testing method reports Total F (all gaseous and particulate forms). Mr Curtis provided Mr Chilton with the details of a continuous monitoring device (MCS100FT) who in turn provided this to Ravensdown. Ravensdown has identified that this device would not be suitable due to the moisture content of the discharge.</p> <p>Ravensdown will continue to investigate technology for online monitoring noting that proposed condition 47 of the air discharge permit also requires 10 yearly technology reviews.</p>

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		<ul style="list-style-type: none"> JWS13.5 Mr Curtis to provide Mr Chilton with copy of information and Mr Chilton to consider technical appropriateness for the site and get feedback from Ravensdown. Mr Chilton considers if technology is not currently suitable, will be appropriate to have a condition to the effect of a watching brief that if technology does become available to look at implementing it. 	
14	Climate Change Effects	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> Have climate change effects on vegetation been adequately considered, including increased wind speeds and storms. Tie to technology review conditions (Mr Ball). Mr Curtis noted that modelling is based on existing or past data. Possible extension of pH conditions accounting for the growing season/flowering period. Precautionary approach for effects on vegetation related to moisture stress <p>Ravensdown expert responses:</p>	

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		<ul style="list-style-type: none"> • Only minor CO² discharges from the site. • Changes to weather patterns as a result of climate change have not been considered. Type of crops may change if conditions change. • Review clause would allow for consideration of any effects. • Current operation with pH limit of 2.7 has shown no effects. <p>Outcome:</p> <ul style="list-style-type: none"> • JWS14.24: <ul style="list-style-type: none"> a) Ravensdown planners to look at consent conditions to include changes in technology. Consider Mr Balls comments. b) Also to look at a ten yearly review to encompass climate change and changes in flowering periods and longer growing seasons. Based on condition 47. 	<p>Proposed condition 47 of the air discharge permit (September 2022 version) requires 10 yearly technology reviews.</p> <p>Ravensdown has consulted with JESA who have confirmed that a 10 yearly interval is considered appropriate when considering that superphosphate technology is 'very mature' indicating a relatively slow rate of further innovation and the development of substantially new technologies associated with the manufacture of fertiliser. In light of this, Ravensdown considers a shorter-term review period would not be appropriate.</p> <p>Any effects of Ravensdown's activities that may change as a result of climate change are considered speculative, however in consideration of the discussion had at the expert conferencing an amendment to the review clause of the proposed consent conditions for the air discharge permit (proposed condition 53a, September 2022 version) has been made to include that the Council can to review the conditions <i>"during the month of May of any year "to deal with any adverse effect on the environment, including those associated with climate change ..."</i>.</p> <p>It is also noted that as a business Ravensdown is responding to the risks of climate change in a number of ways including committing to a 30% reduction in carbon emissions by 2030.</p>

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		<p>c) Ms Shanks, need more information on climate change and stress on plants and adopt a precautionary approach on emissions. More data or modelling done by NIWA. Results incorporated into the consent conditions.</p>	<p>As noted above, any effects of Ravensdown’s activities on vegetation that may change as a result of climate change are considered speculative and can be addressed through review of the consent conditions (proposed condition 53a September 2022 version).</p> <p>The requirements for ongoing monitoring and review options if, as a result of climate change, the way the plant operates begins to have an unanticipated effect in the receiving environment are considered by Ravensdown to be an appropriate approach to the possibility that climate change may at some future point in the life of the consent require some further action.</p>
		<p>d) Ms Shanks would like restriction period around pH levels to be reviewed now, not wait 10 years after consent given effect to.</p>	<p>As noted above, the review of consent conditions can be undertaken any year at the discretion of the Council.</p> <p>In addition to this, proposed Condition 18 of the air discharge permit (September 2022 version) has been amended (as underlined below) from the existing consent condition (proposed condition 37, September 2022 version) to include a pH limit of no lower than 4.0 during the August to September period to further protect horticulture crops in the area during the flowering period when the weather conditions could result in repeated exposures.</p> <p><i>The pH of the condensate from the den and hygiene stacks or the Manufacturing stack, shall be no lower than 2.7 <u>except in the period August to September when the pH shall be no lower than 4.0.</u></i></p> <p>Ravensdown considers this response addresses the issue raised in an appropriate way and proposes no further action.</p>
		<p>e) Ravensdown could look at approaches: extend pH</p>	<p>See comment for 14 e) above</p>

JWS Ref #	Technical Matters Not Agreed On	Summary of JWS discussion points and outcomes	Action to resolve / address matter
		above 3 to account for other crops such as maize, or have a soil moisture monitoring site. Look at further research as to how to monitor heat stress.	
15	Limits on pH of emissions to protect pollination and fruit set.	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> Continued from item 14 - Possible extension of pH conditions accounting for the growing season/flowering period of native plants. <p>Ravensdown expert responses:</p> <ul style="list-style-type: none"> Native vegetation has a long flowering period so there could be the odd event that exceeded the limits. This would have minimal ecological effect and a slight reduction in seed set would be unlikely to impact native regeneration. <p>Outcome:</p> <ul style="list-style-type: none"> JWS15.4: Dr Trolove open to considering an extension to Aug-Nov. Respond to Ms Shanks prior to the hearing. 	<p>The experts' discussion on this point related to native vegetation. As noted above, the assessment of effects on vegetation undertaken for the application is based on the current state of the receiving environment concluding that since the pH of stack emissions had been raised to >2.7 <i>"there has been no evidence of damage to vegetation that would likely be attributable to emissions from the Napier Works"</i> and that therefore <i>"the risk of damage from acidic aerosols is low"</i>.</p> <p>Native vegetation present in the Waitangi Regional Park was also assessed by Dr Trolove for any visible signs of tissue damage that may have arisen from the Napier Works. The Plant and Food report concluded that there was some visible damage to some fluoride sensitive plants, but mostly on the seaward side, and therefore it is most likely not damage from Ravensdown emissions.</p> <p>In addition to this, when considering the changes to dispersion as a result of the modifications to the Manufacturing Stack, the assessment noted that there should be <i>"a further small reduction in the risk of damage from F or acidic emissions"</i>.</p> <p>The proposed condition 18 of the air discharge permit (September 2022 version) considers the existing vegetation surrounding the site and previously documented effects, proposing a pH limit of no lower than 4.0 during August and September.</p>

JWS Ref #	Technical Matters Not Agreed On	Summary of JWS discussion points and outcomes	Action to resolve / address matter
			<p>No further changes to proposed condition 18 are proposed and as noted above, any effects of Ravensdown’s activities that may occur as a result of future and currently unknown changes to the receiving environment, or climate change can be addressed through review of the consent conditions.</p>
16	F-Sensitive crops or vegetation within 1km of the Ravensdown Works	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> Ms Shanks satisfied with s92 response that risk to crops is low. – update in vegetation report. Is there a consent condition that address effects on grazing animals and suggests monitoring? <p>Ravensdown expert responses:</p> <ul style="list-style-type: none"> No data on pasture levels. Could be included into the existing monitoring programme. <p>Outcome:</p> <ul style="list-style-type: none"> JWS16.4: Monitoring of pasture added to existing monitoring. Dr Trollove to provide an addendum to vegetation report. 	<p>The proposed conditions of the discharge to land consent (September 2022) includes monitoring of soil moisture (proposed conditions 7 and 8), soil chemistry (proposed conditions 9 to 11) and foliage monitoring (proposed conditions 16 and 17).</p> <p>Additional monitoring of pasture in relation to the air emissions is not proposed, noting that the vegetation report states that pasture is considered to be “tolerant” of airborne F (Table 4).</p>
17	Mixtures of pollutants	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> Risks related to the mix of agricultural chemicals and emissions from the plant. 	<p>The monitoring suggests that at present the discharge, in combination with whatever else might affect plant health, fruit set and yield, is not having adverse effects. Planned reductions in GLC’s will further reduce risk. Ravensdown cannot control the use of agricultural chemicals by horticulturalists. Ravensdown can and does control its own discharges to reduce risk to crops to a low level. Emissions are controlled by the scrubbing plant and measured with both manual stack testing and near and far field</p>

JWS Ref #	Technical Matters Not Agreed On	Summary of JWS discussion points and outcomes	Action to resolve / address matter
		<p>Evidence of damage to apple leaves with pH of 2.7.</p> <ul style="list-style-type: none"> • Consider precautionary principle. • Other businesses might add to the emissions from Ravensdown - issue for HBRC. <p>Ravensdown expert responses:</p> <ul style="list-style-type: none"> • With high limit around flowering, there is not too much risk at other times of the year. Risks will only get lower with improvements to plant. <p>Outcome:</p> <ul style="list-style-type: none"> • JWS17.6: Ms Shanks accepts Dr Troloves comments, and comments the precautionary principle needs to be adhered to. 	<p>ambient fluoride testing. The source control set out in the SCMP will work to minimise fugitive fluoride from the site. Monitoring will ensure that any unanticipated changes in the receiving environment are identified and can be responded to, including through the review of consent conditions if necessary.</p> <p>The “precautionary principle approach” typically gets applied where there is a significant potential effect and significant scientific uncertainty, therefore in this case it is not considered necessary as there is a long history of monitoring at the site (meaning that there is no significant uncertainty about the effects (or lack thereof) of the discharges, and Ravensdown utilises well known technology in the treatment of those air discharges.</p>
18	Former Winstone’s site and foreshore reserve	<p>Council and Submitter expert questions / comments:</p> <ul style="list-style-type: none"> • Fluoride and dust levels at Winstone’s site are above guidelines. • Currently zoned as Industrial however there is potential for it to be rezoned and rehabilitated and used for public use. • Not satisfied with s92 response that Ravensdown is not going to 	<p>As outlined above and in the Ravensdown response to the Council’s further information request future activities on surrounding land would need to take into account any existing activities and lawful discharges from Ravensdown as these will comprise part of the existing environment.</p> <p>No changes to conditions are proposed.</p>

JWS Ref #	Technical Matters Not Agreed On	Summary of JWS discussion points and outcomes	Action to resolve / address matter
		<p>enter into any future speculation on zoning.</p> <ul style="list-style-type: none"> Possible that restoration of the foreshore would be undertaken and there could be effects on coastal vegetation that may be planted. Fluoride concentrations in this area are above critical concentrations for general and special land use <p>Ravensdown expert responses:</p> <ul style="list-style-type: none"> Options for appropriate fluoride plants for the site if it were revegetated. <p>Outcome:</p> <ul style="list-style-type: none"> JWS18.7: Note different opinions, to be discussed at hearing. 	
Further Comments	Precautionary Principal Approach	<p>Outcome:</p> <ul style="list-style-type: none"> JWS20: Experts to each have a definition relevant to their own field to present to the hearings panel. 	<p>Ravensdown considers this is not an application where there is significant uncertainty as to effects and therefore the need to apply a “precautionary principle approach” is not necessary. Detailed assessments of effects have been undertaken using real data from an existing operating plant. Those assessments show no significant adverse effects from existing air discharges, and Ravensdown plans to reduce emissions from status quo. Detailed ongoing monitoring is proposed and actions can be initiated (including reviewing consent conditions if necessary) if unanticipated effects, including effects attributable to climate change materialise during the term of the consent.</p>

Attachment 1:

Email from Dr Ngaire Phillips to Dr S Kelly - 9 June 2022

Ngairé Phillips

From: Ngairé Phillips
Sent: Thursday, 9 June 2022 10:18 am
To: shane@coastandcatchment.co.nz
Subject: Conclusions regarding wind-blown contaminants from Ravensdown site

Hi Shane

Since our meeting yesterday I've spent time looking over the relevant water quality data plus relevant reports (including the air quality report submitted as part of the AEE). You indicated at our meeting that you would like to know my conclusions regarding this matter. Below are my conclusions, based on the evidence I have:

1. I note from the Tonkin & Taylor Air Quality Assessment report (and discussion with author Richard Chilton) that winds over 7 m/s and especially those over 10 m/s could propagate and then transport dust from the site. Such winds are mostly from the northeast and occur for about 3-4% of the year (so relatively low frequency). Such conditions would be conducive to the generation and subsequent transport of dust from the site towards the Waitangi Drain.
2. I therefore agree that wind-blown contaminants from the Ravensdown facility may be detected in water quality samples collected from sites adjacent to the site (in Waitangi Drain). This is supported by graphs of water quality presented in the Aquanet (2019) report (Death & Eckland, 2019) (and which are summarised in my Effects report). The graphs show increasing concentrations of TP, SRP (DRP) and S under ambient (and rainfall) conditions between site AS1 (upstream of the Ravensdown facility) and sites adjacent to the facility (site AS2 and AS3). There is no evidence for a gradient of increasing concentrations in fluoride, metals or nutrient measures under ambient conditions. There is a small gradient of increasing concentrations in fluoride under rainfall conditions. There is no evidence for gradients in concentrations of metals or nutrients under rainfall conditions. As you noted, concentrations tend to be markedly higher downstream of the discharge point under rainfall conditions.
3. This conclusion does not alter my assessment of current effects, because that assessment is based on measured concentrations in the receiving environment, which would reflect the elevated upstream concentrations.
4. My assessment of future effects is based on predicted concentrations in the discharge, so would not account for contributions from contaminants contributed from the Ravensdown facility upstream of the discharge point. However, it should be noted that my assessment is based only on the proposed treatments, which does not include source control and thus is conservative.
5. I note that concentrations of fluoride reported for all sites upstream and downstream of the discharge are below the Hickey et al. (2004) guideline.
6. I note the highest concentrations of fluoride in sediment measured in 2020 were at sites RAV1 (immediately downstream of the Ravensdown discharge) and NGA1 (downstream control site) and were an order of magnitude higher than all other sites, with the reference site concentration almost double that of RAV1.
7. I note that elemental sulphur (derived from fertiliser processing and measured as Total Sulphur) has very low aquatic toxicity.
8. I note the highest concentrations of Total sulphur in sediment measured in 2020 were at sites AWA1 (upstream of the Ravensdown facility) and NGA1 (downstream control site) and were 2-3 times higher than all other sites.
9. I note that TP and SRP concentrations exceed guideline values at all sites upstream and downstream of the discharge, but are markedly higher adjacent to the Ravensdown facility (as noted in 2 above).
10. On the basis of the above evidence I conclude that any contamination of upstream sites resulting from wind-blown dust is unlikely to result in more than minor effects on the current state of the downstream receiving environment. In addition, the proposed treatments and source control improvements will result in markedly improved water quality in the discharge and reduce the potential for contamination from wind-blown dust entering adjacent waterways.

Kind regards
Ngairé

Dr Ngaire Phillips
Director/Aquatic Ecology & Ecotoxicology Specialist
Streamlined Environmental Ltd
PO Box 7003, Hamilton East 3247
021 076 3603
www.streamlined.co.nz

I work part-time. My usual working days are Monday to Wednesday.

Attachment 2:

Memo from Dr S De Luca - 12 August 2022

Memorandum

- | | | | | |
|--|--|---|---|--|
| <input type="checkbox"/> Whangarei
35 Walton Street
Whangarei 0110
+649 358 2526 | <input type="checkbox"/> Auckland
PO Box 91250
Auckland 1142
+649 358 2526 | <input type="checkbox"/> Hamilton
PO Box 1094
Hamilton 3240
+647 960 0006 | <input checked="" type="checkbox"/> Tauranga
Level 5
35 Grey Street
Tauranga 3110
PO Box 13373
Tauranga 3141
+647 571 5511 | <input type="checkbox"/> Wellington
PO Box 11340
Wellington 6142
+644 385 9315 |
| <input type="checkbox"/> Nelson
51 Halifax Street
Nelson 7010
+643 548 8551 | <input type="checkbox"/> Christchurch
PO Box 110
Christchurch 8140
+643 366 8891 | <input type="checkbox"/> Queenstown
PO Box 1028
Queenstown 9348
+643 441 1670 | <input type="checkbox"/> Dunedin
49 Water Street
Dunedin 9016
+643 470 0460 | |

Attention: Anita Anderson

Company: Mitchell Daysh

Date: 12 August 2022

From: Dr Sharon De Luca

Message Ref: Ravensdown Reconsenting

Project No: BM19983

This memo outlines the marine ecological values in my assessment of effects on marine ecological values for Ravensdown and responds to the comments in the Joint Witness Statement regarding the use of the EIANZ guidelines and ecological value criteria from Dr Shane Kelly and Mr Shade Smith.

The problem with the ecological value criteria (which I developed due to lack of national guidance on marine ecological assessment, and have revised/improved through several iterations over the many years I have been using them) for assigning ecological values in an estuary, is that estuaries usually naturally (and otherwise due to landuse, discharges etc) comprise muddy sediment, anoxic sediment, accumulated contaminants, lower benthic invertebrate species richness, diversity and abundance, usually dominated by organic enrichment and mud tolerant species and few sensitive species. So, applying the criteria usually means estuaries come out as having low ecological value.

The criteria for marine ecological value have been revised and amended (and the whole EIANZ impact assessment document) recently by myself and ecologists from another consultancy. The revised guidelines, including marine ecology, are currently sitting with the EIANZ board for publication. The revised marine ecological values criteria are below in table 1 – characteristics have been expanded and more detail has been added, plus there is recognition of type of habitat (which is important for estuaries).

Table 1: Criteria for assigning ecological values for soft sediment benthic habitats

ECOLOGICAL VALUE	CHARACTERISTICS	APPLICABLE TO PRESENT ASSESSMENT (✓)
VERY LOW	Benthic invertebrate community degraded with very low species richness, diversity, and abundance for the habitat type	
	Benthic invertebrate community dominated by organic enrichment tolerant and mud tolerant organisms with no sensitive taxa present. E.g. rated as 'Poor' using the AC BHM or a similar index	
	Invasive, opportunistic and disturbance tolerant species highly dominant	
	Marine sediments dominated by silt and clay grain sizes (>80%) or rated as 'Poor' using the AC BHM or similar index	
	Surface sediment anoxic (lacking oxygen)	
	Annual average sedimentation rates typically greater than 10 mm above background levels	

	Elevated contaminant concentrations in surface sediment, above ANZG Default Guideline Values (DGV) effects threshold concentrations ^[1]	
	Where shellfish are present, flesh has moderate-high contaminant concentrations present	
	Water column contaminant values typically at or worse than ANZWQG 80% species protection levels and/or scored as 'Poor' on a recognised WQI	
	Water quality degraded, with the concentration of many toxicants above effects thresholds	
	Fish community depleted with very low species richness, diversity and abundance	
	No Threatened or At Risk marine species present	
	Native estuarine vegetation or macroalgae absent or so sparse as to provide very limited ecological value	
	No Threatened ecosystems present	
	Nuisance phytoplankton or macroalgal blooms may occur frequently over a large spatial scale	
	Physical habitat extremely modified	
LOW	Benthic invertebrate community degraded with low species richness, diversity and abundance for the habitat type	
	Benthic invertebrate community dominated by organic enrichment tolerant and mud tolerant organisms with few/no sensitive taxa present e.g. rated as 'Marginal' using the AC BHM or similar index	
	Invasive, opportunistic and/or disturbance-tolerant species dominant	
	Marine sediments dominated by silt and clay grain sizes (>60%) or rated as 'Marginal' using the AC BHM or similar index	
	Surface sediment predominantly anoxic (lacking oxygen)	
	Annual average sedimentation rates typically less than 10 mm above background levels	
	Elevated contaminant concentrations in surface sediment, above ANZG DGV effects threshold concentrations	
	Where shellfish are present, flesh has low-moderate contaminant concentrations present	
	Water column contaminant values typically between ANZWQG 80% and 90% species protection levels and/or scored as 'Marginal' on a recognised WQI	
	Water quality compromised by some toxicants in concentrations above effects thresholds	
	Fish community depleted with low species richness, diversity and abundance	
	No Threatened or At Risk marine species present	
	No Threatened ecosystem present	
	Native estuarine vegetation and/or macroalgae community provides minimal/limited habitat for native fauna.	
	Nuisance phytoplankton or macroalgal blooms may occur commonly over a moderate scale	
	Physical habitat highly modified	
MODERATE	Benthic invertebrate community typically has moderate species richness, diversity and abundance for the habitat type	
	Benthic invertebrate community has both (organic enrichment and mud) tolerant and sensitive taxa present E.g. rated as 'Fair' using the AC BHM or similar index	
	Few invasive opportunistic and/or disturbance tolerant species present	
	Marine sediments typically comprise less than <60% silt and clay grain sizes or rated as 'Fair' using the AC BHMmud or similar index	
	Shallow depth of oxygenated surface sediment to 1-2 cm depth	

^[1] ANZG (2018) Australian and New Zealand Guidelines for Freshwater and Marine Water Quality (replaced previous ANZECC guidelines).

	Annual average sedimentation rates typically less than 5 mm above background levels	
	Contaminant concentrations in surface sediment generally below DGV	
	Where shellfish are present, flesh has low contaminant concentrations present	
	Water column contaminant values typically between ANZWQG 90% and 95% species protection levels and/or scored as 'Fair' on a recognised WQI	
	Fish community typically has moderate species richness, diversity and abundance	
	Few Threatened or At Risk marine species present	
	Few Threatened ecosystems present	
	Native estuarine vegetation and macroalgae community dominated by native species and provides moderate habitat for native fauna	
	Nuisance phytoplankton or macroalgal blooms may occur sporadically over a moderate spatial scale	
	Physical habitat modification limited	
HIGH	Benthic invertebrate community typically has high diversity, species richness and abundance for the habitat type	
	Benthic invertebrate community contains many taxa that are sensitive to organic enrichment and mud . E.g. rated as 'Good' using the AC BHM or similar index	
	Invasive opportunistic and/or disturbance tolerant species largely absent	
	Marine sediments typically comprise <40% silt and clay grain sizes or rated as 'Good' using the AC BHMmud or a similar index	
	Surface sediment oxygenated up to 5cm depth	
	Annual average sedimentation rates typically less than 2 mm above background levels	
	Contaminant concentrations in surface sediment rarely exceed DGV concentrations	
	Where shellfish are present, flesh has no contaminant concentrations present or not above laboratory detection limits	
	Water column contaminant values typically between ANZWQG 95% and 99% species protection levels and/or scored as 'Good' on a recognised WQI	
	Fish community typically has high diversity, species richness and abundance	
	Native estuarine vegetation or macroalgae community dominated by native species and provides high quality habitat for native fauna	
	Nuisance phytoplankton or macroalgal blooms may occur infrequently at a limited spatial scale	
	Threatened or At Risk marine species present	
	Threatened ecosystem types present	
	Physical habitat largely unmodified	
VERY HIGH	Benthic invertebrate community typically has very high diversity, species richness and abundance for the habitat type	
	Benthic invertebrate community contains dominated taxa that are sensitive to organic enrichment and mud e.g. rated as 'Excellent' using the Auckland Council (AC) Benthic Health Model (BHM) ^[2] or similar index	
	Invasive opportunistic and disturbance tolerant species absent ^[3]	
	Marine sediments typically comprise < 20% silt and clay grain sizes ^[4] (mud) or rated as 'Excellent' using the AC BHMmud or similar index	
	Surface sediment oxygenated to >5 cm depth ^[5] with no anoxic sediment present	

^[2] Hewitt, J E., Lohrer, A M and Townsend, M (2012). Health of estuarine soft-sediment habitats: continued testing and refinement of state of the environment indicators. Prepared by NIWA for Auckland Council. Auckland Council technical report, TR2012/012

^[3] <https://www.marinebiosecurity.org.nz/>

^[4] Silt and clay percentage of sediment adjusted to be consistent with BHMud Model.

^[5] Robertson, B.M, Stevens, L., Robertson, B., Zeldis, J., Green, M., Madarasz-Smith, A., Plew, D., Storey, R., Oliver, M. 2016. NZ Estuary Trophic Index Screening Tool 2. Determining Monitoring Indicators and Assessing Estuary Trophic State. Prepared for Envirolink Tools Project: Estuarine Trophic Index, MBE/NIWA Contract No: C01X1420. 68p.

Annual average sedimentation rates typically less than 1 mm above background levels ^[6]	
Contaminant concentrations in surface sediment significantly below DGV	
Water column contaminant values typically at or better than ANZWQG 99% species protection level and/or scored as 'Excellent' on a recognised Water Quality Index (WQI) ^[7]	
Fish community typically has very high diversity, species richness and abundance ^[8]	
Threatened ecosystems present	
Native estuarine vegetation or macroalgae community intact and provides significant habitat for native fauna	
No evidence of nuisance phytoplankton or macroalgal blooms ⁴	
Threatened or At Risk marine species present	
Threatened ecosystems present	
Physical habitat unmodified	

Based on the revisions to the criteria for marine ecological values, I now agree with Shane and Shade that the marine ecological values (using revised in Table 10 below) are higher than low (as I concluded in my assessment on marine ecological values prepared for Ravensdown) and the values (in consideration of the estuarine habitat) would sit within the Moderate Ecological values category.

If marine/estuarine values were assessed as moderate (not low) and the magnitude of effect remains negligible, the overall level of effect is still very low as per Table 2 below. The outcome of my assessment would not be different if ecological values were assessed as moderate instead of low.

Table 2: Criteria for describing the level of effect (Roper-Lindsay et al., 2018)

LEVEL OF EFFECT		ECOLOGICAL AND/OR CONSERVATION VALUE				
		Very High	High	Moderate	Low	Negligible
MAGNITUDE	Very High	Very High	Very High	High	Moderate	Low
	High	Very High	Very High	Moderate	Low	Very Low
	Moderate	High	High	Moderate	Low	Very Low
	Low	Moderate	Low	Low	Very Low	Very Low
	Negligible	Low	Very Low	Very Low	Very Low	Very Low
	Positive	Net gain	Net gain	Net gain	Net gain	Net gain

There was discussion during caucusing from Shade/Shane about the fact that bird species present would raise the ecological value. However, birds are not typically included in a marine/estuarine assessment – they are separate from marine ecology. They are usually dealt with by an avifauna ecologist. If all areas of ecology (marine/estuarine, avifauna, terrestrial vegetation etc) were considered in a single overall ecological value (which is not best practice), then the overall values could be higher for some areas of ecology e.g. avifauna.

^[6] Townsend and Lohrer (2015). ANZECC Guidance for Estuary Sedimentation. Prepared for Ministry for the Environment by NIWA.

^[7] E.g., Ingley, R (2021). Coastal and estuarine water quality state and trends in Tāmaki Makaurau / Auckland 2010-2019. State of the environment reporting. Auckland Council technical report, TR2021/02.

^[8] <https://www.mpi.govt.nz/legal/legislation-standards-and-reviews/fisheries-legislation/maps-of-nz-fisheries/>



ATTACHMENT 2

Proposed Conditions (Tracked) -
September 2022 version

*Ravensdown Ltd, Napier Works Sustainable Site Project - Proposed Conditions, September 2022
Prepared for Pre-Hearing Meeting #2 in response to s92 conditions questions, expert
conferencing, and some submitter points where agreed by consent holder.*

RAVENSDOWN LTD
NAPIER WORKS SUSTAINABLE SITE PROJECT
HAWKE'S BAY REGIONAL COUNCIL RESOURCE CONSENTS
PROPOSED CONDITIONS

Updated September 2022

Key to changes made since conditions lodged on 30 November 2021

All Conditions

- Underline /Strikethrough and associated comments - Applicant updates following submissions, s92 further information request and expert conferencing.

Mana Whenua Conditions (Appendix 1 – General Conditions, Conditions 13 to 23 and Schedule 1)

- Underline /Strikethrough - Applicant updates 1 Feb 2022 version sent to Mana Whenua during submission period.
- **Highlighted Comments and Underline /Strikethrough Changes** - 17 May 2022 following meeting with Mana Whenua roopu.
- **Highlighted Comments and Underline /Strikethrough Changes** - 30 May 2022 following meeting with Mana Whenua roopu.
- **Highlighted Comments and Underline /Strikethrough Changes** – 13 Sept 2022 at meeting with Mana Whenua roopu.
- **Highlighted Comments and Underline /Strikethrough Changes** - 14 Sept 2022 following Aramanu Ropiha and Andrew Torrens discussion and Mitchell Daysh final drafting.



Ravensdown Ltd, Napier Works Sustainable Site Project - Proposed Conditions, September 2022
Prepared for Pre-Hearing Meeting #2 in response to s92 conditions questions, expert
conferencing, and some submitter points where agreed by consent holder.

HBRC CONSENT - DISCHARGE TO AIR

Activity Description: To discharge contaminants into the air from the operation and maintenance of a sulphuric acid and fertiliser manufacturing plant at Awatoto including all ancillary activities.

Consent Duration: 35 years from the commencement date of this consent.

CONDITIONS

1. The activities authorised by this consent shall be undertaken generally in accordance with the Assessment of Environmental Effects dated 30 November 2021 and associated management plans dated 30 November 2021 and other information supplied as part of the application for this resource consent. If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.
2. There shall be no discharge of particulate matter (including dust) or odour that causes an offensive or objectionable effect beyond the boundary of the site.
3. Notwithstanding any other condition of this consent, there shall be no discharge to air from the site of gases, airborne liquid or other airborne contaminants beyond the site, that causes adverse effects on human health, ecosystems or property.

Advice Note:

For the purpose of this condition the term site shall mean 'land and all assets on it'.

Product Storage

4. All bulk raw materials stored on site shall be kept inside a building.
5. The consent holder shall ensure regular sweeping of yard and road areas using mechanical cleaning to minimise emissions of dust beyond the boundary of the site

Acid Plant

6. The Acid Plant stack shall be no less than 55 metres above ground level, the furnace pre-heat stack no less than 18 metres above ground level, and the auxiliary boiler stack no less than 15.8 metres above ground level.
7. The emission rate of Sulphur Dioxide (SO₂) from the Acid Plant stack shall not exceed 1.5 kilograms (kg) per minute (two minute average) and:
 - a) 60 kg/hour (one hour average) at any time until completion of the construction and commissioning of the replacement Acid Plant Converter 1 January 2024.
 - b) 40kg/hr (one hour average) at any time following construction and commissioning of the replacement Acid Plant Converter from 1 January 2024.
8. The combined discharge rate of Sulphur Trioxide (SO₃) and Sulphuric Acid (H₂SO₄) (expressed as SO₃) from the acid plant stack shall not exceed:
 - a) 2 kg/hr as a 1-hour average at any time;
 - b) 0.5 kg/hr for at least 50% of the monitored 1-hour averages in any 3 month period.

Commented [AA1]: Date moved to accommodate updated version / references to management plans

Commented [AA2]: Identified in Mott Mac Memo - s92

Commented [AA3R2]: Suggested change accepted.

Commented [AA4]: Mott Mac Comment - s92
This may need to be strengthened to include buildings with closing doors.

Commented [AA5R4]: The SCMP provides for a prioritised list of source control including building closures and this will be implemented over time as set out in the SCMP.

No changes to conditions are proposed.

Commented [AA6]: Change made to include footnote into condition.

Commented [AA7]: Change made to include footnote into condition.

³ ~~Following construction and commissioning of the replacement Acid Plant Converter.~~



Ravensdown Ltd, Napier Works Sustainable Site Project - Proposed Conditions, September 2022
Prepared for Pre-Hearing Meeting #2 in response to s92 conditions questions, expert
conferencing, and some submitter points where agreed by consent holder.

9. The discharge from the acid plant may contain up to 150 milligrams per cubic metre (mg/m³) at NTP SO₃ / H₂SO₄ expressed as SO₃ for not more than 4 hours after igniting sulphur in the case of a cold start and not more than 1 hour in the case of a warm start up. This shall be measured in accordance with USEPA method 8 or another method as approved by Council.

Advice note:

The NTP (Normalised Temperature and Pressure) for the purposes of this consent is based on 0 degrees Celsius at 1 atmosphere pressure.

10. The discharge from the acid plant shall not occur during wind directions between 030 and 155 (onshore winds) between the months of September to May inclusive, when either of the following meteorological conditions occur:
- a) The relative humidity measured on-site at 10 metres above ground level is 92% or greater, wind speed at 10 metres above ground level is 3 m/s or less and it is not raining; or
 - b) The relative humidity measured on-site at 10 metres above ground level is 95% or greater, wind speed at 10 metres above ground is greater than 3 m/s and it is not raining.
11. Acid plant discharge shall cease within 30 minutes of the above meteorological conditions being detected and shall not recommence until these conditions have not occurred for a period of at least 30 minutes. Plant operators shall be alerted when the measured relative humidity at 10 metres above ground during onshore winds (030-155 degrees) exceeds 90%, and careful observation of meteorological conditions and the visible plume discharge shall occur during such conditions. A record shall be kept of the dates, time periods and meteorological conditions when the acid plant operation ceases according to this condition. This record shall be provided to the Council on request and otherwise annually.
12. A system shall be maintained that automatically shuts off the sulphur feed to the burner so that the discharge to air rate of SO₂ from the sulphuric acid production process does not exceed the emission rates set out in Condition 7.

Manufacturing Plant

13. Stack Height
- a) Prior to the commissioning of the new combined Manufacturing stack, discharges from each den scrubber shall be via stacks with a height of no less than 38 metres above ground level.
 - b) Prior to the commissioning of the new combined Manufacturing stack discharges from the hygiene scrubber shall be via a stack with a height of no less than 36 metres above ground level.
 - c) The combined Manufacturing stack shall be installed and operational by 1 January 2024 with a discharge height, including cowl, of no less than 50 metres above ground level as measured from the base of the stack.
14. All extracted emissions from the superphosphate manufacturing process shall be discharged through either the den stacks or the hygiene stack, or the combined manufacturing stack following its commissioning.
15. The rate of particulate matter discharged from any Bradley mill shall not exceed 1 kg/hr per mill, and 2 kg/hr in total when two or more mills are in operation.
16. The sum of the fluoride compounds discharged from the den stacks and the hygiene stacks, (prior to the commissioning of the combined manufacturing stack) measured in the samples taken in accordance with Condition 26 expressed as fluoride on a one-hour average basis, shall not exceed:

Ravensdown Ltd, Napier Works Sustainable Site Project - Proposed Conditions, September 2022
Prepared for Pre-Hearing Meeting #2 in response to s92 conditions questions, expert conferencing, and some submitter points where agreed by consent holder.

- a) a maximum discharge rate of 1.5 kg/hr; and
 - b) 1 kg/hr in more than 50% of samples taken in any 12-month period.
17. The sum of the fluoride compounds discharged from the combined manufacturing stack (after commissioning) measured in the samples taken in accordance with Condition ~~27~~6 expressed as fluoride on a one hour average basis, shall not exceed a maximum discharge rate of 1 kg/hr.
18. The pH of the condensate from the den and hygiene stacks or the Manufacturing stack, shall be no lower than 2.7 except in the period August to September when the pH shall be no lower than 4.0.
19. An automated water deluge system for the manufacturing den mixer shall be used to minimise contaminant discharges in the event of failure of the mixing process.

Cooling Towers

- ~~20.~~ The evaporative cooling towers shall be regularly dosed with micro-biocides to maintain the concentration of the micro-biocide in the cooling water at the level recommended by the supplier that prevents the establishment of Legionella bacteria. Records shall be kept to demonstrate compliance with this condition and shall be provided to the Council on request.

Source Control Management

- ~~20-21.~~ The consent holder shall undertake actions as described in the Ravensdown Napier Works Source Control Management Plan September 2022 required by condition 13 of the general conditions relating to both land and water discharge permits, to reduce the concentrations of fugitive airborne contaminants from the site.

Commented [AA8]: Condition added to address discussion of fugitive contaminants at expert conferencing and link to general conditions for the discharge to land and water.

SCMP reference has been updated to September 2022

Onsite Monitoring

- ~~21-22.~~ The consent holder shall operate a meteorological station in a location that reasonably represents meteorological conditions on the site. The station shall continuously record, wind speed, wind direction, temperature and relative humidity, and display them in real time in the manufacturing control room and the acid plant control room. The location and the resolution, accuracy and averaging time of monitoring equipment shall be agreed in writing by the Council. All processed data shall be archived and made available to the Council on request.
- ~~22-23.~~ All sampling and surveys shall be carried out by an independent suitably qualified person, or by the consent holder or its representative where the Council has agreed to this in writing. Where the consent holder or its representative carries out testing or monitoring, an independent suitably qualified person shall audit the monitoring and testing methodology at least once per year, unless otherwise agreed in writing by the Council, and shall provide a written report describing the extent of compliance with the required protocol. A copy of this report shall be provided to the Council as part of the Annual Report.
- ~~23-24.~~ All analyses in accordance with conditions on the consent shall be carried out by an independently accredited laboratory to ISO/IEC Guide 25, or to the satisfaction of the Council.
- ~~24-25.~~ The consent holder shall continuously (i.e., at intervals not exceeding 1 minute) measure the rate of SO₂ discharge in the emissions from the acid plant stack. The method of measurement shall be in accordance with ISO10396:2007 (Stationary source emissions – Sampling for the automated determination of gas emission concentrations for permanently – installed monitoring systems) or an alternative method, approved in writing by the Council. Testing results shall be reported in the Annual Report as a mass emission rate in units of kg/hr as both 1-minute and 1-hour averages.
- ~~25-26.~~ The consent holder shall measure the rate of discharge of SO₂, SO₃ and H₂SO₄ in the emissions from the acid plant stack, at least twice per year at times when acid is being produced. This monitoring shall be undertaken in accordance with USEPA Method 8 ("Determination of

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sulphuric acid mist and sulphur dioxide emissions from stationary sources”) or an alternative method that is approved, in writing, by the Council.

26-27. The consent holder shall measure the discharge rate of fluoride in the emissions from manufacturing stacks monthly. The measurement is to be carried out during superphosphate manufacture and no test may commence within one hour of starting acidulation. The method of measurements shall be in accordance with USEPA Method 13B (“Total fluoride specific ion electrode”) or an alternative method approved, in writing, by the Council.

27-28. The consent holder shall measure the rate of discharge of SO₂ in the emissions from the manufacturing stacks monthly. The measurement is to be carried out during superphosphate manufacture and no test may commence within one hour of starting acidulation. This monitoring shall be undertaken in accordance with USEPA Method 8 (“Determination of sulphuric acid mist and sulphur dioxide emissions from stationary sources”) or an alternative method that is approved, in writing, by the Council.

28-29. The rate of particulate matter discharged from each mill shall be measured at least once every 6 months. The method of sampling and analysis shall comply with USEPA Method 5 or Method 17, ISO 9096:2003 or ASTM D3685-98, or a similar iso-kinetic method to the satisfaction of the Council. The testing time for each sample shall be 2- hours continuous, and at least three samples shall be collected. Results shall be adjusted to 0°C, 101.3 kilopascals, on a dry gas basis, and as a mass emission from each stack expressed as kg/hr.

29-30. The baghouses shall be continuously monitored using an electrostatic probe to detect broken bags in the Bradley mills. A central alarm system shall be operated to warn the plant operator of a bag breakage or any change in pressure that may indicate a broken filter bag. The bag filters serving the Bradley mills shall also be manually inspected on a regular basis and shall be replaced where the inspection reveals excessive wear. Records shall be kept of Bradley mill shutdowns, manual inspections and filter bag replacements. These records shall be provided to the Council on request.

30-31. The pH of the condensate from the Manufacturing stack shall be measured monthly. The method by which the condensate is to be measured shall be approved in writing by the Council.

Offsite and Ambient Monitoring

31-32. The consent holder shall measure ambient fluoride, in accordance with the monitoring plan required by Condition ~~45-46~~ and based on a continuous filter exposure period of 7-days. The results shall be reported as average concentration (µg/m³) over that 7-day sample period. Measurements shall be taken at the following sites, listed below;

Site	Easting (NZMG)	Northing (NZMG)
Brookfields Orchard	28452407	6175251
Plumpton Park	2844864	6177075
Ravensdown Back Paddock	2846499	6175772
Ravensdown Front Paddock	2846745	6176068
[New site east of Ravensdown Napier Works]	[Location to be defined in consultation with HBRC]	
[New site in the vicinity of the Napier City Council Cross Country Drain pumping station]	[Location to be defined in consultation with HBRC]	

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32-33. The location of the sites are shown on HBRC Conditions Plan A. Locations may be modified after securing the agreement of the relevant landowner and with the written approval of the Council. The concentration of fluoride in ambient air measured in accordance with Condition 324 shall not exceed 0.8 µg/m³ (7 day average) at areas used for horticultural production (including Brookfields Orchard and Plumpton Park (locations as detailed in Condition 324).

33-34. The 7-day average concentration of fluoride measured at the Ravensdown Back Paddock and [new northern site] monitoring site (location as detailed in Condition 3432), shall not exceed 1.7 µg/m³.

34-35. The 7-day average concentration of fluoride measured at the Ravensdown Front Paddock and [new eastern site] monitoring sites (locations as detailed in Condition 3432), shall not exceed 5.5 µg/ m³.

35-36. The consent holder shall ensure ambient fluoride measurement is undertaken in accordance with AS3580.13.2 – 1991 (“Method 13.2: Determination of fluorides – Gaseous and acid soluble particulate fluorides – Manual, double filter paper sampling”) or an alternative method approved, in writing, by the Council.

36-37. Ambient fluoride measurement undertaken in accordance with Condition 34-32 shall occur at a height of 2.4 metres above ground level.

37-38. Fugitive SO₂ monitoring:

- a) The consent holder shall install and operate at least two ambient SO₂ monitors around the acid plant in order to detect fugitive SO₂ emissions. The monitoring sites shall be located east of Ravensdown Napier Works, and at the Ravensdown Back Paddock monitoring site as described in Condition 34-32 and shall be agreed in writing by the Council prior to establishment. The concentration of SO₂ in ambient air shall be monitored continuously (at least every minute) by UV fluorescence analysis, according to the method of measurement AS3580.4.1 – 1990 (“Method 4.1: Determination of sulphur dioxide – direct reading instrumental method”), or an alternative method agreed to in writing by the Council; and
- b) In the event that ambient concentrations of SO₂ measured at either of the monitoring sites described by Condition 37-38 (a) exceed 350 µg/m³ as a 10-minute average, immediate action shall be taken to ensure that measured SO₂ concentrations are reduced to less than 350 µg/m³ as a 10 minute average. A record shall be kept of all occurrences when measured SO₂ concentrations exceed this limit and the corrective action taken. This record shall be provided to the Council on request and otherwise annually.
- c) Any exceedance of the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 (NES) for SO₂ shall be reported as soon as practicable after detection.

38-39. Concentrations of PM_{2.5} and PM₁₀ in ambient air shall be monitored continuously at two sites according to a method of measurement that complies with the monitoring requirements in the NES, or an alternative method agreed to in writing by the Council. The monitoring shall begin within 3 months of commencement of this consent. The monitoring sites shall be located east of Ravensdown Napier Works, and at the Ravensdown Back Paddock monitoring site as described in Condition 34-32 and shall be agreed in writing by the Council prior to establishment. Results shall be provided as a 24-hour average. Any exceedance of the NES for PM_{2.5} and PM₁₀ shall be reported as soon as practicable after detection.

39-40. The consent holder shall undertake a Window Clarity survey on receipt of a reasonable request from a property owner within 1 km of the manufacturing plant stack using the methodology outlined in the BRANZ report DCZ059 (25 June 2004). Any windows found to be affected to ‘pen test level 3’ or where Light Gloss Units (LGU) are equal or less than 115 as

Commented [AA9]: Condition changed following discussion at expert conferencing. Noted in JWS outcome table.



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described in BRANZ report DCZ059, shall be replaced by the consent holder if the property owner wishes the glass to be replaced.

40-41. The consent holder shall undertake a vegetation monitoring programme that has been approved by the Council in accordance with the monitoring plan required Condition 45-46 of this consent. The programme shall provide for the following matters:

- a) A visual assessment of vegetation; and
- b) A determination of foliar fluoride concentrations; and
- c) The timing of the vegetation monitoring programme (which shall occur during the months of September to May inclusive for the duration of the consent, unless otherwise agreed in writing by the Council); and
- d) The monitoring methodology which shall be agreed in writing by the Council; and
- e) The location of any monitoring, including but not limited to the following sites

Commented [AA10]: Changes to monitoring sites to match actual sites currently being monitored by Plant and Food.

Site	Easting (NZMG)	Northing (NZMG)
Brookfields Orchard, Kings Road	28452407	6175251
Plumpton Park Orchard, Awatoto Road	2844864	6177075
Simkin Orchard, Awatoto Road	2844899	6177531
Steiner Apollo Orchard T&G, Willowbank Road	2845130	6177681
Apollo Orchard, Tannery Road	2843161	6178732
Mr Apple Orchard, Meeanee Road	2843358	6177127
Johnny Appleseed Orchard, Brookfields Road, Meeanee	2844016	6174605
Wells Orchard, McLeod Road	2845551	6176688
Dewer Orchard, Awatoto Road	2845361	6176994
Johnny Appleseed Orchard, King Road, Meeanee		
Brookfields Winery, Brookfields Road		

Commented [AA11]: Map Ref to be provided

Commented [AA12]: Map Ref to be provided

Advice Note:

The location of the monitoring sites, frequency of monitoring and analytes monitored may only be modified as appropriate with the written agreement of the Council based on any future landuse or property ownership changes which may occur through the life of the consent.

Reporting

41-42. The consent holder shall advise the Council at least 24 hours in advance of a planned warm or cold restart of the acid plant. The Council shall be advised of the proposed time when sulphur will be ignited.

42-43. At monthly intervals the consent holder shall provide the Council with a report if any exceedance of limits of any conditions of this consent has occurred along with an explanation of the reasons for the exceedance.



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43.44. The consent holder shall produce a report every year (the “Annual Report”) that presents and summarises all information on the monitoring required by this consent. The report shall include, but not necessarily be limited to:

- a) Results of monitoring of dust, PM_{2.5}, PM₁₀, SO₂, fluoride and acidic compounds;
- b) The fluoride and foliar monitoring report;
- c) Any odour or dust complaints;
- d) A description of any potential and actual effects that have been identified;
- e) Identification of trends of monitoring information;
- f) ~~a~~ summary of any air emission control equipment- modifications;
- g) Recommendations for system improvements; and
- h) The annual report shall be prepared for the period beginning July and ending June of the following year and provided to the Council before 31 October each year.

Commented [AA13]: Added as above - Condition changed following discussion at expert conferencing. Noted in JWS outcome table.

44.45. The consent holder shall maintain a log of all complaints received directly from the public. The log shall include:

- a) The date, time, and nature of the complaint;
- b) The telephone number, and address of the complainant (if provided);
- c) Weather information (including an estimate of wind speed and direction);
- d) Details of key operating parameters at the time of the complaint; and
- e) The remedial action taken, as appropriate, to prevent further incidents.

Complaints and any immediate actions taken by the consent holder shall be reported to the Council as soon as practicable and within 48 hours of receipt and the log of complaints shall be made available to the Council on request.

Management and Monitoring Plan

45.46. The consent holder shall prepare and submit to the Council for approval within six months of the date of commencement of this consent and within six months from the commissioning of the combined Manufacturing stack, an Air Discharge Management and Monitoring Plan with the Objective of detailing how all discharges to air from the site and their effects will be measured, assessed and managed in accordance with these conditions. The Management and Monitoring Plan shall be complied with at all times during the exercise of this consent, and shall include:

Management of:

- a) Dust including particulate;
- b) Sulphur dioxide;
- c) Acidic discharges;
- d) Fluoride;
- e) Odour;
- f) Sampling methods;
- g) Analytical methods;
- h) Reporting requirements;
- i) Sampling locations;



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- j) Sampling frequencies; and
- k) Auditing and peer review.

Monitoring of:

- a) Manufacturing stack monitoring requirements;
- b) Acid plant stack monitoring requirements;
- c) Grinding mill stack monitoring requirements;
- d) Ambient SO₂, particulate matter and H₂S monitoring;
- e) Offsite ambient fluoride monitoring requirements, and
- f) Offsite vegetation fluoride monitoring requirements.

~~46. The Council may review conditions of this consent pursuant to sections 128, 129, 130, 131 and 132 of the Resource Management Act 1991. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 136(1) of the Resource Management Act 1991. Notice of any review may be served during the month of May in any year, or within 3 months of any monitoring data being submitted:~~

- ~~a) To deal with any adverse effect on the environment that may arise from the exercise of this consent, which it is appropriate to deal with at that time or which became evident after the date of issue; and~~
- ~~b) To require the adoption of the best practicable option to remove or reduce any effects on the environment; and~~
- ~~c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate or inadequate.~~

Technology Review

47. At years 10, 20 and 30 following the commencement of this consent, the consent holder shall commission a suitably qualified and experienced expert to prepare a Best Practicable Option technology review (covering the matters described in Part 2 under the definition of Best Practicable Option of the RMA) of the plant and systems that are utilised on the site for managing air discharges. The BPO Technology Review Report shall contain information on the suitability and practicability of any new best practice technology or operational procedure being applied at similar plants internationally, and must make recommendations as to whether and when any such technology or procedures to should be applied to the consent holders operations, end of serviceable life upgrade or replacement of plant or systems. A copy of the BPO Technology Review Report shall be provided to the Council (Manager Compliance).

Administration

Notification of Changes to Details

48. It is the responsibility of the consent holder to inform the Council (Manager Consents) if any details regarding this consent-, including any sale / purchase of the property and any change to contact details.

Routine Monitoring

49. Routine monitoring inspections will be undertaken by Council officers at a frequency of no more than once every year to check compliance with the conditions of the consent. The costs of any routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Commented [AA14]: Updated review condition moved to below.

Commented [AA15]: HBDHB Submission
Require an improvement plan after each technical review to show how reductions in contaminants in the discharges will be achieved to meet any new environmental standards or address health effects.

Prepare an improvement schedule following the 10 year review. Comment on effects of improvements. Limits should be lowered as improvements made / legislation changes.

Commented [AA16R15]: This change of condition responds to the HBDHB submission point above. It provides a mechanism for BPO improvements to be recommended for consideration by the consent holder and if appropriate the Council can initiate a condition review based on the BPO report.

The ability to ensure the consent conditions remain in step with changes to environmental standards is addressed in the Council review condition 53.

Commented [AA17]: Typo resolved



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Non-routine Monitoring

50. "Non routine" monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA, which states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

a) any of sections 10, 10A, 10B, and 20A; or

b) a national environmental standard, a rule, a resource consent, or a designation.

Consent Impact Monitoring

51. In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council will levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Council's Annual Plan process.

Debt Recovery

52. It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

Review

53. The conditions of this consent may be reviewed by Council during the month of May of any year pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The consent(s) may be reviewed for any of the following purposes:

- a) To deal with any adverse effect on the environment, including those associated with climate change, which may arise from the exercise of the consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
- b) To require that the discharge is consistent with requirements in a regional plan or a National Environmental Standard;
- c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate, inaccurate or inadequate; and
- d) To require the adoption of the best practicable option to remove or reduce any effects on the environment;

Commented [AA18]: As noted above, condition moved and updated to delete duplication between Plan and NES consistency.

Commented [AA19]: Addition to reference climate change effects and address discussion from expert conferencing.
Noted in JWS outcomes table



HBRC CONSENT – DISCHARGE TO LAND

Activity Description To discharge treated stormwater and process water and associated contaminants from a sulphuric acid and fertiliser manufacturing plant at Awatoto to land in circumstances where contaminants will be absorbed by crops and soils and/or may enter shallow groundwater.

Consent Duration 35 years from the commencement date of this consent.

CONDITIONS

1. The activities authorised by this consent shall be undertaken generally in accordance with the Assessment of Environmental Effects dated 30 November 2021 and associated management plans dated 30 November 2021 and other information supplied as part of the application for this resource consent. If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.
2. The discharge to land from the site shall be in accordance with the general conditions attached as Appendix 1 to this consent and within the irrigation area shown on Plan A-B attached to this consent.

Advice Note:

For the purposes of this consent “discharge” refers to stormwater, process water and groundwater added to the stormwater system for the purpose of sustaining constructed wetland and stormwater device vegetation and non-commercial crops used in the treatment process.

3. The discharge shall be onto vegetated land. Vegetated land includes land where vegetation is actively growing or senescing and cultivated for vegetation establishment.
4. The rate of discharge shall not exceed 12 millimetres per hour.
5. The discharge to land shall not cause surface ponding or overland flow from the site.
6. No animals shall be grazed in the irrigation area.

Monitoring

Soil Moisture Monitoring

7. Soil moisture within the discharge area shall be continuously monitored using soil moisture probes. The discharge system shall be configured so that there is no discharge onto land when soil moisture at the soil moisture probes exceed 85 percent of soil capacity (refer Plan B A).
8. Soil moisture monitoring results shall be recorded for each monitoring point, including results of annual calibration of soil moisture monitoring equipment. The results shall be provided to the Council on request.

Soil Chemistry Monitoring

9. Nine sampling sites are to be established across the 17.5 ha to represent the overall sites' soil chemical and physical properties of the Land Discharge area. Each sampling site is represented by GPS points within Ravensdown's spatial information system (Hawkeye™) to ensure that ongoing monitoring is from the same geospatial locations (refer Plan BC).
10. Sampling sites are to be sampled at a 15cm depth and represented by 15 to 20 cores from each site.
 - a) Sampling sites are to be resampled on an annual basis for the first five years to establish baseline data. From then on they are to be sampled on a biannual basis during late

Commented [AA20]: Date moved to accommodate updated version / references to management plans

Commented [AA21]: Identified in Mott Mac Memo - s92

Commented [AA22R21]: Suggested change accepted.

Commented [AA23]: Incorrect reference updated

Commented [AA24]: Incorrect Reference updated

Commented [AA25]: Incorrect Reference updated

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winter/early spring to monitor trends over time (or as required). Results are to be stored within Hawkeye.

11. The soil analysis will consist of:
 - a) Soil pH, Olsen P, K, Mg, Ca, Na, Sulphate S and Organic Sulphur,
 - b) Potentially Mineralisable Nitrogen (PMN)
 - c) EDTA (Co, Mn, Fe, Cu, Zn)
 - d) EPA Heavy Metal Suite (As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
 - e) Total soil F.

Groundwater Quality Monitoring

12. Groundwater quality monitoring shall be undertaken twice annually for the first year, and annually thereafter, at three shallow groundwater monitoring bores not more than six metres deep. One groundwater monitoring bore shall be located at the mid-point of the north-western boundary of the irrigation area (upgradient), and one bore each shall be located on the northern and southern ends located at the mid-point of the eastern boundary of the irrigation area (down-gradient) (refer Plan A/B). A suitably qualified professional shall be onsite during the drilling of the monitor bores to ensure hydraulic gradient is as predicted by bore placement as displayed in Plan B. GPS coordinates of the final bore locations will be provided to the Council.
13. All groundwater quality monitoring undertaken in accordance with the conditions of this consent shall be carried out by a person suitably qualified and experienced in environmental monitoring. Any meters used for the monitoring shall be calibrated and operated in accordance with the manufacturer's specifications.
14. Groundwater samples collected in accordance with this consent shall be analysed for fluoride. All analyses in accordance with conditions of this consent shall be carried out by a laboratory that is IANZ accredited, or that is authorised by the Council (Manager Compliance).
15. In the event that the results of groundwater monitoring indicate a significant increase in fluoride in the downgradient bore in comparison to the upgradient bore the consent holder shall:
 - f) Commission a suitably qualified and experienced person to assess the risk to the environment from the exceedance, including consideration of the ecological effects and effects on groundwater quality for drinking water purposes;
 - g) If the assessment undertaken in accordance with Condition 15.a) identifies a risk to the environment as a result of the exceedance, potential options for reducing the concentration of fluoride in the groundwater shall be assessed;
 - h) Provide a report to the Council summarising the results of the risk assessment (Condition 15.a) and options assessment (Condition 15.b)) within one year of the identification of the exceedance. This shall include an assessment of the actions to be undertaken to reduce the risk to the environment if one has been identified, including timeframes for undertaking these actions; and
 - i) Implement the improvement actions, within the timeframes specified.

Advice Note:

A significant increase in fluoride is defined as 1085 mg F/kg soil

Foliage Monitoring

Commented [AA26]: Revised condition for monitoring bore locations based on s92 request (Mott MacDonald) and agreement by Bay Geological Services.

Commented [AA27]: Incorrect Reference updated

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16. The crop shall be sampled for dry matter and metabolisable energy according to the code of practice for the trading of pasture and whole crop forages. These samples should also be analysed for macronutrients to confirm the estimate of nutrients removed in the plan
17. Test unwashed samples from each forage cut intended for livestock consumption for fluoride levels in accordance with ANZEC guidelines.

Advice Note:

ANZEC guidelines are to manage the potential effect of aerosols containing fluoride being deposited on vegetation not from the discharge activity itself.

Appendix 1

Refer to the General Conditions relating to the both Land and Water Discharge Permits, following the Water Discharge Permit Consent.

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HBRC CONSENT – DISCHARGE TO SURFACE WATER AND GROUNDWATER

Activity Description To discharge treated stormwater and process water and associated contaminants from a sulphuric acid and fertiliser manufacturing plant at Awatoto onto or into land and into water (Waitangi Estuary) in the Coastal Margin.

Consent Duration 35 years from the commencement date of this consent.

CONDITIONS

1. The activities authorised by this consent shall be undertaken generally in accordance with the Assessment of Environmental Effects dated 30 November 2021 and associated management plans dated 30 November 2021 and other information supplied as part of the application for this resource consent. If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.
2. The discharge into surface water from the site shall be in accordance with the general conditions attached as Appendix 1 to this consent, and to either the Ravensdown Drain or to the Habitat Abundance Restoration Programme (HARP) wetland area at GPS Co-ordinates NZTM 2000 5613817 1937000.

Advice Note:

For the purposes of this consent “discharge” refers to stormwater, process water and groundwater added to the stormwater system for the purpose of sustaining constructed wetland and stormwater device vegetation and non-commercial crops used in the treatment process.

3. The rate of discharge shall not exceed 265 litres per second.
4. The consent holder shall ensure that the activities authorised by this resource consent are designed, constructed and maintained so that they do not cause erosion or scour of the beds or banks of any receiving water bodies (including drains).

Commented [AA28]: Date moved to accommodate updated version / references to management plans

Commented [AA29]: Identified in Mott Mac Memo - s92

Commented [AA30R29]: Suggested change accepted.

APPENDIX 1

GENERAL CONDITIONS RELATING TO BOTH LAND AND WATER DISCHARGE PERMITS

Water Discharge Hierarchy

1. The discharge shall be managed as follows:
 - a) Discharge shall be to land via spray irrigation whenever this meets the soil moisture content condition in the land discharge permit of less than 85 percent;
 - b) During times when discharge to land is not permitted (due to soil moisture exceeding 85 percent) under the land discharge permit conditions, discharge shall be to the Ravensdown Drain or Habitat Abundance Restoration Area (HARP) (refer Plan D) only between three hours before and three hours after high tide as at the Port of Napier tide gauge (“high tide discharge”); and
 - c) Outside of the discharge times in Condition 1.b As third preference, discharge to the Ravensdown Drain or Habitat Abundance Restoration Area (HARP) at any time on site storage capacity is likely to be exceeded.

Adaptive Management Plan Process

2. The discharge shall be undertaken in accordance with the *Ravensdown Napier Works: Water Discharge Adaptive Management Plan, November 2021/September 2022. The following stormwater system:*
3. Until the Stage 1 Stormwater System Improvements are implemented, the discharge shall be via the stormwater system that existed at the site on 30 November 2021;
4. If required to ensure the discharge meets the water quality discharge parameters set out in Table 1 of General Condition 16.5, further stormwater system improvements and/or source control actions shall be implemented in accordance with the recommendations and timeframes recommended by the Comprehensive Review and the Adaptive Management Plan required by General Condition 18. (k).

Design Requirements

5. Following completion of the Stage 2 stormwater and process water treatment system improvements the site stormwater system shall have capacity to treat the first 75 millimetres of rainfall falling on the site.
6. All stormwater systems installed at the site in accordance with this consent shall be designed by a suitably qualified professional engineer, experienced in that field, to assist in meeting all standards and design requirements of this consent, and as set out in the application (as specified in the documents referenced in General-Condition 1 of this consent).
7. Final Design Plans of the stormwater and process water treatment system for each stage of stormwater system improvements shall be provided to the Council (Manager: Compliance) for certification that they are consistent with the conditions of this consent prior to construction commencing. If 20 working days have passed and no correspondence has been received from the Council regarding the adequacy of the stormwater system design it shall be deemed certified and construction may commence.
8. The final design plans shall demonstrate the following:
 - a) The storage volume, levels and dimensions of the stormwater treatment and attenuation devices sufficient to demonstrate that the stormwater devices have been designed in accordance with good practice guidance;

Commented [AA31]: Mott Mac s92 comment

Add new condition
 Technology review - Best practice technology review condition(s) required. Recommend 5-yearly review in line with other similar consents.

Commented [AA32R31]: The BPO technology review is proposed for the air discharge consent and is not necessary in the land and water discharge conditions because the technology used must meet the discharge limits set in conditions within 5 years as per the AMP.

No changes to conditions proposed

Commented [AA33]: F & B Submission
 Condition 1 - no limitation on when the third preference can be used. Does not align with 85% threshold in Land discharge conditions.

Commented [AA34R33]: Condition 1 wording amended to clarify that discharge option c is only available when land is saturated and there are significant rain events that would overwhelm the on site storage.

Commented [AA35]: Mott Mac s92 Comment

Condition(s) required to define review and approval timing of AMP.

Condition(s) required to define the Stages that are discussed in the AMP but referenced in the conditions (e.g. Stage 2 in Condition 4).

Commented [AA36R35]: Ravensdown is seeking approval of the AMP as part of the application. No review or approval condition is required. No ability to review the management plan to alter the upgrade commitments or timeframes is provided for. In order to clarify this the review clause in the November 2021 AMP has been deleted in the September 2022 version provided with these updated conditions.

It is important to recognise that the AMP reporting condition 18k requires a comprehensive report to council if the water quality parameters are not met after stage 2 of the AMP process to deal with any further actions with specific timeframes that are required to achieve compliance.

... [1]

Commented [AA37]: Typo resolved

Commented [AA38]: Changed from sub condition

Commented [AA39]: Mott Mac s92 Comment

Changes needed to refer to Treatment system and contaminated water rather than solely stormwater.

Commented [AA40R39]: Changes made to reflect that the system treats both storm and process water.



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conferencing, and some submitter points where agreed by consent holder.

b) That following the completion of the Stage 2 stormwater system improvements the discharge will meet the requirements of Table 1 of General Condition 165.

9. The stormwater system shall be constructed in accordance with the design plans certified in accordance with General Condition 6.

Engineering Plans – Post Construction

10. Following the completion of construction of each stage of the stormwater improvements, the consent holder shall provide Council with accurate as-built plans of the stormwater system, prepared by a suitably qualified and experienced professional engineer, confirming that the stormwater infrastructure has been installed in accordance with the certified final design plans.

Maintenance

- 11. The consent holder shall maintain the stormwater system in accordance with good practice to maintain the water quality and water quantity performance required by this consent.
- 12. The consent holder shall record the details of all inspections and works undertaken under General Condition 10. Those records shall be made available for inspection by the Council (Manager: Compliance) on request.

Source Control Management

13. ~~The consent holder shall undertake the actions as described in the Ravensdown Napier Works Source Control Management Plan September November 2022, to reduce the concentrations and load of contaminants entering stormwater at the site within five years of the commencement of the consent. The consent holder shall review the Source Control Management Plan action schedule for the purpose of updating the list of proposed site improvements, or responding to changes on the site such as the identification of any additional contaminant sources or changes identified as necessary to reduce inputs to the stormwater treatment system.~~

Habitat Abundance Restoration Project

- 14. The consent holder shall undertake the habitat restoration works as set out within the Ravensdown Napier Works, ~~Habitat Abundance Restoration Project Plan November 2021~~ September 2022.
- 15. Prior to the commencement of construction, the consent holder will engage a suitably qualified expert to prepare a Restoration Plan that will meet the requirements of the Schedule 2 of the Resource Management (National Environmental Standards for Freshwater) Regulations 2020.

Water Quality Discharge Parameters to Water and Land

- 16. The consent holder shall ensure ~~that~~
 - a) From the time of commencement of this consent the discharge (at the point of discharge GPS Co-ordinates NZTM 2000 1936998 east, 5613831 north) shall comply with the 2007 current discharge permit parameters in Table 1 in 95 percent of monitoring results in any 12-month period.
 - b) Discharges to land or water (at the point of discharge GPS Co-ordinates NZTM 2000 1936998 east, 5613831 north) shall comply with the relevant parameters in Table 1 (Discharge Parameters – Any Tide Discharge (post Stage 2) and Discharge Parameters – High Tide Discharge (post Stage 2)) for 95 percent of monitoring results in any 12-month period after the completion and monitoring of Stage 2 (six years following the commencement of this consent) as set out in the Ravensdown Napier Works: Water Discharge Adaptive Management Plan, November 2021-September 2022.

Table 1 – Discharge water quality analytes and parameters

Commented [AA41]: Mott Mac s92 Comment

Add 'and load' after concentrations and change 'inputs' to 'contaminants'.

Additional condition(s) required to define timing of reviews/revisions, require that actions are carried out as proposed, and report to Council on progress.

Commented [AA42R41]: Change made to add 'and load', however the term inputs is considered better wording as an input could be fresh rainwater (as example). Reporting of SCMP action completion is already captured in condition 18g and section 6 of the SCMP. The condition requires that the identified actions required in the SCMP be undertaken within 5 years. Consequential changes have been made to condition 18g and the review section has been deleted in the SCMP Sept 2022 version to emphasise this is an action plan that requires implementation.

Commented [AA43]: 30 May 2022
 Acknowledge that the project was proposed by / has evolved from a proposal put forward by mana whenua.

Updated HARP (Sept 2022 version) addresses this.

Commented [AA44]: Updated reference

Commented [AA45]: 30 May 2022
 include expert that will incorporate concepts of Te Ao Maori, mahinga kai, tikanga.

Updated HARP (Sept 2022 version) addresses this.

Commented [AA46]: F & B Submission

Condition 15 parameters for discharge to land are not improved from current parameters after stage 2 is complete.

... [2]

Commented [AA47R46]: Agreed this is not clear - removed reference to 95% in Condition 16

Commented [AA48]: 30 May 2022
 Clarify column titles

... [3]

Commented [AA49]: Mott Mac s92 comment

... [4]

Commented [AA50R49]: Condition 17 provides details of sampling and methodology.

... [5]

Commented [AA51]: Updated Reference

Commented [AA52]: Mott Mac s92 comment

... [6]

Commented [AA53R52]: There is no allowance in the water take permit application to use water for dilution

... [7]



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Contaminant	Current 2007 Discharge Permit Parameters (milligrams per litre)	Discharge Parameters – Any Tide Discharge (post Stage 2) and Land (milligrams per litre)	Discharge Parameters – High Tide Discharge (post Stage 2) (milligrams per litre)	Source For Parameter Value
Total Phosphorus	Less than 17 mg/L 95% of the time and less than 22 mg/L 99% of the time	N/A	N/A	N/A
Soluble reactive phosphorus	Less than 15 mg/L 95% of the time and less than 35 mg/L 99% of the time	0.042	0.0735	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary
Ammoniacal nitrogen Unionised ammonia based on pH8 at 20 deg C, all flows	N/A	0.28	0.49	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary
Nitrate nitrogen	N/A	Improving trend toward 0.14	Improving trend toward 0.245	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary
Nitrite	N/A	0.546	0.9555	Regional Coastal Environment Plan, Rule 17
Total nitrogen	N/A	Improving trend toward 0.308	Improving trend toward 0.539	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary
Total suspended solids (TSS)	100	70	122.5	Regional Coastal Environment Plan, Schedule D, Part II Standards that apply to specific catchments
pH	6.5 – 8.5	7.0-8.5	7.0-8.5	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary
Fluoride	30	14	24.5	Site specific value – Hickey 2004
Aluminium	N/A	0.154	0.2695	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary / Regional Coastal Environment Plan
Copper	N/A	0.00364	0.00637	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary / Regional Coastal Environment Plan
Cadmium	N/A	0.0154	0.02695	TANK Plan Change, s42A Addendum

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Contaminant	Current 2007 Discharge Permit Parameters (milligrams per litre)	Discharge Parameters – Any Tide Discharge (post Stage 2) and Land (milligrams per litre)	Discharge Parameters – High Tide Discharge (post Stage 2) (milligrams per litre)	Source For Parameter Value
				report, Table 26.5.2, Waitangi Estuary / Regional Coastal Environment Plan
Chromium	N/A	0.0756	0.1323	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary / Regional Coastal Environment Plan
Nickel	N/A	0.196	0.343	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary / Regional Coastal Environment Plan
Zinc	N/A	0.042	0.0735	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary / Regional Coastal Environment Plan

Advice note:

For the purposes of this consent, these discharge parameters have been calculated so that the discharge will meet the relevant water quality standards beyond the zone of reasonable mixing for the discharge. Prior to the establishment of the HARP the zone of reasonable mixing shall be the Ravensdown Drain and 90 metres down the Awatoto Drain (GPS Co-ordinates NZTM 2000 1936918 east, 5613708 north). At the completion of Stage 2 of the Adaptive Management Plan the consent holder shall commission a suitably qualified expert to undertake a dye study to recalculate the zone of reasonable mixing once the new HARP wetland is established.

Discharge Monitoring

17. The consent holder shall carry out the following monitoring:

- a) A sampling station shall be maintained at the Discharge Pond outlet and be accessible to Council officers or its agents at all times.

A representative, flow-proportional, composite sample (sampled continuously over a period of one week) shall be collected from the sampling station, referred to in Condition 156a, at least once per week when discharge is occurring and tested for the following parameters:

- i. pH
- ii. Total phosphorus
- iii. Soluble reactive phosphorus
- iv. Fluoride

Commented [AA54]: F & B Submission Condition 16 reference to “beyond the zone of reasonable mixing” but no clarity of what point this is. Condition 16 may only be relevant to parameters after completion of stage 2 as condition 15 a) refers to “at the point of discharge” with respect to current parameters.

Commented [AA55R54]: Map Reference added to 16a and b to clarify the location of monitoring.

Commented [AA56]: Mott Mac Comment s 92
Will the measurement point include dilution water?

Commented [AA57R56]: As noted above - There is no allowance in the water take permit application to use water for dilution apart from 637m3 to maintain the HARP and this is not proposed.

No changes to conditions proposed.

Commented [AA58]: 30 May 2022
For further technical discussion.

Commented [AA59R58]: Condition changed to add an advice note and further explanation added to confirm changes following HARP establishment.

The discharge point and discharge quality standards in Table 1 will not change, however the point at which compliance with the TANK standards will move upstream.

Commented [AA60]: F & B Submission Condition 17 only considers exceedance in terms of Table 1 which does not provide for ground water

Condition 17 requires discharge monitoring with respect to condition 15a (current discharge parameters). Does not appear to be discharge monitoring requirements for condition 15b when stage 2 has been completed.

Commented [AA61R60]: Table 1 column heading and title have been updated to include "Land" as these discharge parameters also cover the discharge of irrigation water into land where it may enter groundwater.

Condition 16 requires monitoring at all stages - references to "a" and "b" have been removed.

Commented [AA62]: Mott Mac s92 Comment
Review required for condition of samples over 1 week period. Some parameters may alter over this period.

Commented [AA63R62]: Mott MacDonald have been asked to confirm this question / comment to enable a response from Ravensdown

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- v. Total suspended solids
- vi. Total nitrogen
- vii. Nitrate nitrogen
- viii. Nitrite
- ix. Ammoniacal nitrogen

Results shall be recorded on a mass per unit volume of discharge basis and the volume of discharge shall also be recorded. The records shall be forwarded to the Council at monthly intervals, along with an assessment of compliance against Table 1 of General Condition ~~15~~¹⁶.

- b) A representative, flow-proportional, composite sample (sampled continuously over a period of one week) shall be collected from the sampling station, referred to in Condition ~~15~~^{6a}, at six monthly intervals and tested for the following parameters:
 - i. Dissolved copper
 - ii. Dissolved zinc
 - iii. Dissolved cadmium
 - iv. Dissolved chromium
 - v. Dissolved aluminium
 - vi. Dissolved nickel
 - vii. Total sulphur

Results shall be taken on a mass per unit volume of discharge basis and the volume of discharge taken shall also be recorded. The records shall be forwarded to the Council at six monthly intervals.

- c) All sampling in accordance with the conditions of this consent shall be carried out by a person suitably qualified and experienced in environmental monitoring.
- d) All analyses in accordance with conditions of this consent shall be carried out by a laboratory that is IANZ accredited, or that is authorised by the Council (Manager: Compliance).
- e) The consent holder shall calibrate and operate any meters required for monitoring in accordance with the manufacturer's specifications.
- f) In the event the values in General Condition ~~15-16~~ ¹⁶ Table 1 are exceeded the Consent Holder may have the sample re-tested to confirm that the exceedance was not due to a testing error. In these circumstances the exceedance only needs to be reported to the Consent Authority in accordance with General Condition 18 if the re-tested sample confirms the exceedance.

Reporting

- 18. The consent holder shall prepare an annual report for the period of July to June each year and, by the 30 ~~October~~^{November} following that period, submit it to the Council. The report shall summarise monitoring and compliance against the consent conditions and discuss any non-compliance and recommended necessary actions to achieve compliance. The report shall include, at a minimum:

Compliance Monitoring Reporting

- a) A summary of the volume of the discharge, the location it has been discharged to, and details of any discharge to surface water that was not on a High Tide Discharge.
- b) A summary of the results of groundwater quality monitoring from the irrigation area.
- c) The results of any assessment of effects of the irrigation discharge, if one is undertaken in accordance with Condition 12 of the discharge to land permit, and a summary of the progress against any actions identified.

Commented [AA64]: Mott Mac S92 Comment

Condition(s) required to indicate requirements of flow meter, recording and reporting, and calibration requirements.

Commented [AA65R64]: See Condition 17e for calibration requirements and 18a for reporting of volumes.

No changes to conditions proposed.

Commented [AA66]: Mott Mac S92 Comment

Add: ", along with an assessment of compliance against Table 1 of General Condition 15."

Commented [AA67R66]: See condition 17f) and 18f) for reporting requirements. This is therefore not required.,

No changes to conditions proposed

Commented [AA68]: Mott Mac S92 Comment

Clarification required to ensure that resampling is not permitted. Retesting of existing sample only.

Commented [AA69R68]: Sampling and testing will be undertaken with an accredited lab (condition 17d). Condition considered unnecessary.

No changes to conditions proposed.

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- d) A summary of the results of the discharge sampling undertaken at the site.
- e) An assessment of the discharge monitoring results against the relevant water quality parameters for the site, and a summary of any exceedances of these parameters.
- f) A record of any known non-compliance with conditions of this consent and the actions taken to remedy this non-compliance.
- g) Any update ~~on implementation of to~~ the Source Control Management Plan action schedule.
- h) A register of complaints relating to the authorised discharge made during the report period, and a record of how complaints were addressed.
- h)i) ~~A progress summary of the implementation the Cultural Values Reports recommendations (see Schedule 1) and any other relevant matters arising from the Awapuni Reference Komiti.~~
- h)j) A summary of actions undertaken as part of the HARP over the previous 12 months.

Adaptive Management Plan Reporting

- i)k) ~~Until the water quality parameters set out in this Appendix are met, T~~the reporting shall include the following information on the Adaptive Management process:
 - i. A progress summary of the stormwater improvements that have been implemented at the site over the reporting period confirming adherence with the timetable established in the *Ravensdown Napier Works: Water Discharge Adaptive Management Plan, November 2021* ~~September 2022~~.
 - ii. If following the completion of Stage 2 stormwater system improvements and after an initial three month monitoring period, any water quality parameters set in this Appendix are exceeded, the consent holder shall commission a suitably qualified expert to undertake a Comprehensive Review of the options available to resolve the remaining parameter exceedances. A report prepared to document this Comprehensive Review shall be provided to the Consents Manager HBRC within six months after the completion of the stage 2 stormwater system improvements, and shall include:
 - i. the options assessed;
 - ii. a best practicable options analysis prepared using methodology in Section 2 of the RMA;
 - iii. the reasons for the water quality improvement selected to resolve the issue;
 - iv. the proposed timeframes for implementing any water quality improvements selected, and the reasons for this timeframe.
 - iii. The consent authority shall consider the Comprehensive Review Report and certify that the recommended additional treatment proposed is fit for purpose to resolve the remaining parameter exceedances in an appropriate timeframe.

Mana Whenua Recognition and Participation

- 19. Within ~~six~~ **three** months of the commencement of these consents the consent holder shall seek nominations to establish an ~~Mana Whenua Advisory~~ **Awapuni Reference Komiti** ~~to assist the consent holder to to undertake the functions set out in condition 23~~ **in order to further develop effective measures that recognise and implement the broad recommendations contained within the Cultural Values reports; Whataangaanga and Surrounds; Cultural Values, Names and Associations, November 2021 and Ravensdown Napier Resource Consent Renewal Cultural Impact Assessment, Ngāti Pārau Hāpu, November 2021.**

Commented [AA70]: Mana Whenua Condition - Added 1 Feb 2022

Commented [AA71]: Mott Mac S92 Comment

Consent condition(s) required to define the timeframe by which all parameters must be met regardless.

Commented [AA72R71]: Adaptive Management Plan includes timeframes in Table 1 of the AMP. Text changed to clarify condition.

Commented [AA73]: Reference has been updated to September 2022

Commented [AA74]: 17 May 2022
 Roopu to consider alternative name for Komiti and change accordingly in conditions below

Commented [AA75R74]: 30 May 2022
 "Oversight" suggested to replace "Reference" to reflect that it is a working group.

Commented [AA76R74]: Awapuni Reference Komiti agreed

Commented [AA77]: 17 May 2022
 Highlighted text added.

Commented [AA78]: 17 May 2022
 Text moved to 23a below

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20. The consent holder will invite mana whenua hapū (Ngāti Pārau, Ngāti Hori, Ngāti Hinemoa, Ngāti Hāwea) in consultation with the following organisations to nominate six representatives for the Awapuni Reference Komiti:

- a) Ngāti Pārau Hapū Trust Waiohiki Marae;
- b) Kohupatiki Marae;
- c) Te Taiwhenua o Heretaunga;
- d) Te Taiwhenua o Te Whanganui Ā Orotu.

Advice Note:

For the avoidance of doubt the Awapuni Reference Komiti is not intended to have any representative function for marae and hapū affiliated to these organisations listed above, other than in relation to the exercise of these consents.

21. When calling for nominations from the organisations listed in Condition 20 a) to d) above, the consent holder shall provide a draft Terms of Reference for the Awapuni Reference Komiti outlining the proposed administration, meeting periods, komiti membership term and funding for the group, and reflecting that reflects the objectives, functions and responsibilities outlined in Condition 23 below. The consent holder shall forward a draft version of the Terms of Reference to the nominated Awapuni Reference Komiti members for consideration with a request to provide feedback within two calendar months. The Terms of Reference will provide for the following matters outlined in a) to i) below, as a minimum:

- a) Administration support.
- b) Proceedings and schedule of meetings.
- c) The term and succession of Komiti members.
- d) Appointment of Komiti chair.
- e) Duties and functions of Komiti members.
- f) A flexibility mechanism to enable any future iwi and hapū management structures.
- g) Manaakitanga.
- h) Provision for mātauranga Māori through mauri monitoring throughout the term of the consent.
- i) The role of Kaihapai Taiao, including working with the consent holder and providing counsel to integrate mātauranga Māori in the delivery of the adaptive management process and associated monitoring, alongside other ongoing kaitiakitanga matters throughout the term of the Resource Consents.

22. The consent holder shall convene the first meeting of members nominated for the Awapuni Reference Komiti within three months following the call for nominations with the purpose of ratifying the Terms of Reference. A copy of the final Terms of Reference shall be supplied to the Council (Manager Compliance).

23. The objectives, functions and responsibilities of the Awapuni Reference Komiti shall be to assist the consent holder as follows.

- a) To develop effective measures that recognise and implement the recommendations contained within the Cultural Values reports: *Whataangaanga and Surrounds; Cultural Values, Names and Associations, November 2021 and Ravensdown Napier Resource Consent Renewal Cultural Impact Assessment, Ngāti Parau Hāpu, November 2021* (see Schedule 1).
- b) To facilitate information flow between the consent holder and mana whenua hapū regarding the activities associated with these consents at a Komiti meeting to be held October each year. The mechanisms for this information flow will be

Commented [AA79]: 13 Sept 2022
Text added with mana whenua roopu
a) to d) numbers from each organisation removed
"Hapu" removed from Kohupatiki Marae

Commented [AA80]: 17 May 2022
Changed to Ngati Parau Hāpu

Commented [AA81]: 30 May 2022
Add Hapu
13 Sept - Removed

Commented [AA82]: 17 May 2022
Text moved and revised in 21a) to f) below

Commented [AA83]: 13 Sept 2022
"Text added for consistency

Commented [AA84]: 17 May 2022
Highlighted text added

Commented [AA85]: 13 Sept 2022
Text added with mana whenua roopu

Commented [AA86]: 14 Sept 2022
Changed from Kaitiaki Liaison person and amendments for context

Commented [AA87]: 13 Sept 2022
Text added / amended with mana whenua roopu

Commented [AA88]: 13 Sept 2022
Text added / amended with mana whenua roopu

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- i. To receive a presentation on the content of the annual reports (prepared in draft form) set out in General Condition 18 prior to their finalisation and submission to the Council by 30 November each year; and
- ii. To identify any issues of concern that may arise during the activities associated with these consents in order to discuss and recommend any appropriate additional measures outside of the consent conditions which may need to be considered by the consent holder to address any issues raised in relation to impacts on mauri.

c) To assist consent holder in recruiting a suitably qualified and experienced Kaihapai Taiao to work as part of the consents holders team exercising the consents, including to support the reporting to the Awapuni Reference Komiti and implementing the works associated with the Adaptive Management Plan Process (Condition 2), Habitat Abundance Restoration Project (Condition 14) and Whataangaanga Cultural Heritage Project (Condition 24).

20. The consent holder shall work with the Mana Whenua Advisory Komiti to develop its own terms of reference within twelve months of the commencement of these consents which will cover the objectives, administration, meeting periods and funding for participation:

21. Ravensdown shall appoint three representatives to sit on the Mana Whenua Advisory Komiti in order to ensure effective and ongoing liaison and partnership with Mana Whenua Hapu through the durations of these consents:

24. Within three months of the commencement of these consents the consent holder shall commission the preparation of a "Whataangaanga Cultural Heritage Project Plan" by a suitably qualified and experienced expert, engaged with the assistance of the Awapuni Reference Komiti as a means of delivering Recommendation 1.3 of the report "Whataangaanga and Surrounds: Cultural Values, Names and Associations, November 2021" (see Schedule 1 of these conditions). The consent holder shall finalise the Whataangaanga Cultural Heritage Project Plan within two years of the commencement of these consent and will provide a copy to the Council (Manager Compliance).

Review

22-25. The conditions of this consent may be reviewed by Council during the month of May of any year pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The consent(s) may be reviewed for any of the following purposes:

- a) To deal with any adverse effect on the environment which may arise from the exercise of the consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
- b) To require that the discharge is consistent with requirements in a regional plan or a National Environmental Standard;
- c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate, inaccurate or inadequate;
- d) To modify and/or add conditions of consent in order to ensure that it is consistent with the operative provisions of a regional plan. This shall include (but not be limited to) conditions specifying any maximum or minimum levels, minimum flows and associated implementation timeframes, and/or abstraction rates or volumes (including allocation limits); and
- e)d) In the event that the Stage 1 and 2 treatment works set out in the *Ravensdown Napier Works: Water Discharge Adaptive Management Plan, November 2021-September 2022* do not result in compliance with all of the water discharge conditions set out in this Appendix following the monitoring check undertaken in Year 6 of the adaptive management period or after the Comprehensive Review process set out in General Condition 18 (jk) above.

Commented [AA89]: 14 Sept 2022
Changed from Kaitiaki Liaison person and amendments for context

Commented [AA90]: 13 Sept 2022
Text added / amended with mana whenua roopu

Commented [AA91]: 14 Sept 2022
Added to reflect discussion with Aramanu Ropiha

Commented [AA92]: Condition deleted as it duplicates 25(b) above

Commented [AA93]: Reference has been updated to September 2022

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Administration

Notification of Changes to Details

23-26. It is the responsibility of the consent holder to inform the Council (Manager Consents) if any details regarding this consent, including any sale / purchase of the property and any change to contact details.

Routine Monitoring

24-27. Routine monitoring inspections will be undertaken by Council officers at a frequency of no more than once every year to check compliance with the conditions of the consent. The costs of any routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Non-routine Monitoring

25-28. "Non routine" monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA, which states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

a) any of sections 10, 10A, 10B, and 20A; or

b) a national environmental standard, a rule, a resource consent, or a designation.

Consent Impact Monitoring

26-29. In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council will levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Council's Annual Plan process.

Debt Recovery

30. It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

Schedule 1: Recommendations - Cultural Values Reports

Whataangaanga and Surrounds; Cultural Values, Names and Associations, November 2021

1. That Ravensdown invest in Rangatiratanga - Leadership through a long-term relationship with mana whenua to achieve all cultural outcomes over the long term². This relationship includes:
 - 1.1 The proposed habitat abundance restoration project as stage one:- is just stage one of a bigger project; and
 - 1.2 That the partnership brings in other industry operating at Whataangaanga for ongoing enhancement staged projects: Mana, Mauri Tu; Taiao.
 - 1.3 A second concurrent project runs in conjunction with the restoration project; Names and associations is project two that researches the names and associations used through time, for the area of the estuary, and interprets the findings consistent with the cultural outcomes of Whakapapa; Ahi kaa; Mahi Toi; Tohu.

and
2. That Ravensdown, in acknowledgement of the waka culture of the early inhabitants of the area; and of the positive social impact associated with waka today, invests in restoring the culture of waka on the rivers. Manaakitanga - fostering potential.

and
3. That Ravensdown, in partnership with Mana whenua; establish a Whakatipu Kaitiaki policy to provide scholarships and internships specifically targeting rangatahi Māori, actively investing in mana whenua capacity and capability to engage with the environmental and other issues related to the Ravensdown operations.

Ravensdown Napier Resource Consent Renewal Cultural Impact Assessment, Ngāti Pārau Hapū, November 2021

1. Ngāti Pārau hapū supports the proposed site for disposal of stormwater and process water through irrigation across 17.5 ha of farmland.
2. Ngāti Pārau hapū are committed to working with Ravensdown to ensure a healthy estuarine environment for the Waitangi Estuary and wetlands area. Ngāti Pārau insists that they be kept appraised of, and included in the Habitat Abundance Restoration and ongoing monitoring.
3. That Ravensdown invest in future Mana Whenua Kaitiaki (environmentalists), through an ongoing and active partnership with Mana Whenua to achieve the environmental and cultural aspirations of Mana Whenua, Ravensdown and that of the community.

² Long-term in this context begins with the duration of the resource consent i.e. 35 years

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Prepared for Pre-Hearing Meeting #2 in response to s92 conditions questions, expert conferencing, and some submitter points where agreed by consent holder.

HBRC CONSENT - WATERTAKE

Activity Description To take water from well numbers 15986 and 15989 (150 mm diameters) for the following industrial uses and environmental purposes:

- The manufacture of sulphuric acid and fertilisers;
- The treatment of stormwater and process water including sustaining constructed treatment wetlands and the maintenance of crop cover on the discharge to land area (shown on Plan B); and
- Sustain an artificial wetland within the Waitangi Regional Park.

Consent Duration 35 years from the date of commencement of this consent.

CONDITIONS

1. The activities authorised by this consent shall be undertaken generally in accordance with the Assessment of Environmental Effects dated 30 November 2021 and associated management plans and other information supplied as part of the application for this resource consent. If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.

Commented [AA94]: Condition added for consistency with other consents

1.2. The combined rate of taking from all wells shall not exceed 80 litres per second.

2.3. The combined volume taken, shall not exceed the following:

- a) 13,477 cubic metres in any 7 day period; and,
- b) 666,455 cubic metres within the 12 month period, 1 July to 30 June in consecutive calendar years;

The maximum 7-day and 12 month period volumes for each of the uses is set out in the table below:

Site Water Use	Proposed Volume	
	Weekly (m ³)	Annual (m ³)
Site base load ¹	2,820	
Manufacture of sulphuric acid and fertilisers	7,945	
Sustaining treatment wetland	175	
Maintaining crop cover on irrigation area	1,900	
Subtotal for Operations	12,840	633,240²
Sustaining HARP wetland	637 ³	33,215
Total	13,477	666,455

¹ Site Base Load is domestic usage and site wash water.

² Assuming 48 weeks per year of manufacturing.

³ Using an evapotranspiration rate of 0.7 L/s/Ha and a water surface area of 1.5Ha

3.4. Water meter shall be installed to monitor the volumes associated with each use outlined in the Table in condition 2-3 above (excepting the site base load), prior to the exercise of this consent,

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and shall be operated and maintained to measure the volume of water taken to an accuracy of +/- 5%.

4.5. The device(s) required by condition 3-4 shall be installed and maintained in accordance with the Council's "Technical Specifications and Installation Requirements for Flow Meters" (February 2010) (see Advice Note I).

5-6. Water take and use data supplied to the Council in accordance with the conditions of this consent shall be collected by a water measuring device or system that has been verified by a suitably qualified person to be accurate to within +/-5% at that point of take within the following time periods:

- a) For existing devices or systems: within the previous 5 water years (water year is 1 July – 30 June); or,
- b) For new devices or systems: before the end of the first water year (ending 30 June) for that water permit.

6-7. All water measuring devices or systems shall be re-verified by a suitably qualified person as accurate to within +/-5% within a maximum of 5 years from the date of the previous verification.

7-8. From commencement of this consent, the consent holder shall read the water meter at 7-day intervals and shall provide the Council with a record of the following

- a) the meter reading (in cubic metres); and,
- b) the date and time of each reading; and,
- c) the point of take that the record relates to; and,

These records shall be provided to the Council no later than 7 days after the end of each calendar month (see Advice Note II).

8-9. The consent holder shall, upon request by the Council (Manager Compliance), supply details of the use of water occurring under this consent, including (but not limited to) a full description of all processes that the water is used in, a description of the products that are produced on the site, and confirmation that condition 14-15 is complied with.

9-10. All works and structures relating to this resource consent shall be designed and constructed to conform to best engineering practices and at all times maintained to a safe and serviceable standard.

10-11. The consent holder shall undertake all operations in accordance with any drawings, specifications, statements of intent and other information supplied as part of the application for this resource consent. In the event that there is conflict between the information supplied with the application and any consent condition(s), the condition(s) shall prevail.

11-12. The consent holder shall ensure that a backflow prevention device is installed and maintained to prevent contaminants from entering the aquifer through the bores. The consent holder shall provide the details and specifications of the back flow prevention devices/systems to Council (Manager Compliance) prior to the exercising of this consent. The device shall be installed, maintained and tested in accordance with the manufacturer's specifications. Records of testing and maintenance shall be kept and provided to the Council (Manager Compliance) upon request.

12-13. If an event occurs on-site that may lead to contaminants entering groundwater, the Consent Holder shall notify the Napier City Council and the Council (Manager Compliance) of the event as soon as reasonably practicable after the event occurs.

Advice Note:

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Such an event might include for example chemical spillage or backflow/loss of chemicals to the well. Napier City Council can be contacted on 835 7579. The Regional Council 24 hour Pollution Hotline should also be contacted on 0800 108 838.

13-14. To minimise the risk of contaminants entering groundwater, the consent holder shall:

- a) Ensure that well headworks are constructed and maintained to prevent any leakage and/or movement of water or contaminants between the ground surface and groundwater, and shall ensure that there are no openings through which contaminants might enter the well. This shall include (but not be limited to) ensuring that there are no gaps around any pipework and/or cables at the wellhead.
- b) Ensure that the well is maintained and serviced by a suitably qualified and experienced person at a frequency suitable for ensuring that condition **1314(a)** is met, and provide records of this maintenance and servicing to the Council (Manager Compliance) upon request.
- c) In the absence of sufficient records to demonstrate to the satisfaction of the Council (Manager Compliance) that condition **1314(a)** is met, the consent holder, upon request by the Council (Manager Compliance), shall engage at their cost a suitably qualified and experienced person to inspect and certify that the wells(s) meet the requirements of condition **1314(a)**. The certification shall be provided to the Council (Manager Compliance) within 7 days of its receipt.

Advice note:

For the purposes of this condition, an acceptable "suitably qualified and experienced person" is a professional well driller or well engineer (or equivalent), with demonstrable experience in the field of wellhead security, design, construction and maintenance.

14-15. Water may not be used under this consent for commercial 'water bottling', where water bottling is defined as the: "taking and using water for bottling in bottles, bladders or other containers for human consumption where bore water makes up at least 90% of the content of the container".

15-16. The Council may review conditions of this consent pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The consent(s) may be reviewed for any of the following purposes:

- a) To deal with any adverse effect on the environment which may arise from the exercise of this consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
- b) To require that the installation and reading of the water-measuring device or water meter data reporting system is consistent with any policies or rules in a regional plan, a National Environmental Standard;
- c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate, inaccurate or inadequate;
- d) To ensure that the rate and volume of water authorised by the consent is consistent with actual water needs for an efficient take for the consented purpose and is physically able to be taken;
- e) To require, if necessary, the installation of a backflow prevention device to ensure that no contaminant can enter the aquifer through the bore;
- f) To modify and/or add conditions of consent in order to ensure that it is consistent with the operative provisions of a regional plan. This shall include (but not be limited to) conditions

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specifying any maximum or minimum levels, minimum flows and associated implementation timeframes, and/or abstraction rates or volumes (including allocation limits).

Advice Notes

Water Meter Technical Specifications

- I. The following documents are available from the Council's website "Technical Specifications and Installation Requirements for Flow Meters" (February 2010) (www.hbrc.govt.nz/services/water/water-metering/meters/) and "HBRCs Requirements for the use of Portable pumps used to report water use" (February 2013) (www.hbrc.govt.nz/assets/Document-Library/Technical-Publications/Technical-Specifications-and-Installation-Requirements-for-portable-pumps-March-2013.pdf). The Telemetry System Installation Form is provided to telemetry installers by the Council upon request.

Administration

Notification of Changes to Details

- II. It is the responsibility of the consent holder to inform the Council (Manager Consents) if any details regarding this consent, including any sale / purchase of the property and any change to contact details.

Routine Monitoring

- III. Routine monitoring inspections will be undertaken by Council officers at a frequency of no more than once every year to check compliance with the conditions of the consent. The costs of any routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Non-routine Monitoring

- IV. "Non routine" monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA, which states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

a) any of sections 10, 10A, 10B, and 20A; or

b) a national environmental standard, a rule, a resource consent, or a designation.

Consent Impact Monitoring

- V. In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council will levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Council's Annual Plan process.

Debt Recovery

- VI. It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for

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that purpose the Council reserves the right to produce this document in support of any claim for recovery.

HBRC CONSENT – WATERTAKE – CONSTRUCTION, DEWATERING

Activity Description To take groundwater by dewatering associated with the construction of new stormwater and process water treatment facilities.

Consent Duration 10 years from the date of commencement of this consent.

CONDITIONS

1. The activities authorised by this consent shall be undertaken generally in accordance with the Assessment of Environmental Effects ~~dated 30 November 2021~~ and associated management plans ~~dated 30 November 2021~~ and other information supplied as part of the application for this resource consent. If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.
2. Prior to the take of groundwater for dewatering the consent holder shall prepare a Construction Environmental Management Plan (CEMP) with the objective of ensuring the take of dewatering water shall be managed to minimise environmental effects. The dewatering section of the CEMP shall be prepared by a person who is suitably qualified and experienced in managing groundwater takes.
3. The dewatering section of the CEMP shall:
 - a) Set out how the take of groundwater for dewatering shall be undertaken to minimise environmental effects;
 - b) Set out the measures that will be implemented so that the take of groundwater for dewatering does not cause subsidence or damage to any structures on adjacent properties;
 - c) Set out how the take of groundwater for dewatering shall be undertaken so that it does not reduce the water available in any nearby bore;
 - d) Set out how the dewatering shall be undertaken so that the rate of dewatering is as low as reasonably practicable.

Advice Note:

It is expected that one CEMP will be prepared which will cover the requirements of all construction phase activities for this project, including take and discharge of dewatering water and excavations.

4. The CEMP shall contain the following information regarding the dewatering take:
 - a) The anticipated rate of dewatering;
 - b) Details of the method that will be used to take groundwater;
 - c) Methods that will be used to avoid environmental effects during the dewatering;
 - d) Procedures for observing and monitoring the take, including the frequency of monitoring, location of monitoring, method of monitoring, and who will be responsible for the monitoring;
 - e) Details of reporting that will be undertaken in accordance with this consent.
5. The dewatering sections of the CEMP shall be provided to the Council at least 20 working days prior to the dewatering discharge commencing, for certification they meet the objective set in Condition 2 and cover the matters set out in Conditions 3 and 4. The take of groundwater for dewatering shall not commence until certification of the dewatering sections of the CEMP has

Commented [AA95]: F & B Submission

Should be a requirement to test and treat contaminated water from dewatering activities.

Commented [AA96R95]: Water quality of discharge water is covered in the discharge permit application.

No changes to conditions proposed

Commented [AA97]: Date moved to accommodate updated version / references to management plans



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been received from Council. Notwithstanding this, if 20 working days have passed and no correspondence has been received from the Council regarding the adequacy of the CEMP, the take of groundwater for dewatering may commence.

6. Groundwater take for dewatering shall be undertaken in accordance with the dewatering sections of the CEMP.
7. If an event occurs on-site that may lead to contamination of groundwater, the consent holder shall notify Council (Manager Compliance) of the event as soon as reasonably practicable after the event occurs.

Advice Note:

The Regional Council's 24 hour Pollution Hotline should also be contacted on 0800 108 838.

8. All works and structures relating to this resource consent shall be designed and constructed to conform to best engineering practices and at all times maintained to a serviceable standard.
9. The conditions of this consent may be reviewed by the Council during the month of May of any year pursuant to sections 128 to 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The conditions may be reviewed for any of the following purposes:
 - a) To deal with any adverse effect on the environment which may arise from the exercise of this consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
 - b) To require that the installation and reading of the water-measuring device or water meter data reporting system is consistent with any policies or rules in a regional plan, a National Environmental Standard;
 - c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate, inaccurate or inadequate;
 - d) To ensure that the rate and volume of water authorised by the consent is consistent with actual water needs for an efficient take for the consented purpose and is physically able to be taken;
 - e) To require, if necessary, the installation of a backflow prevention device to ensure that no contaminant can enter the aquifer through the bore;
 - f) To modify and/or add conditions of consent in order to ensure that it is consistent with the operative provisions of a regional plan. This shall include (but not be limited to) conditions specifying any maximum or minimum levels, minimum flows and associated implementation timeframes, and/or abstraction rates or volumes (including allocation limits).

Administration

Notification of Changes to Details

10. It is the responsibility of the consent holder to inform the Council (Manager Consents) if any details regarding this consent, including any sale / purchase of the property and any change to contact details.

Routine Monitoring

11. Routine monitoring inspections will be undertaken by Council officers at a frequency of no more than once every year to check compliance with the conditions of the consent. The costs of any routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Non-routine Monitoring

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12. “Non routine” monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA, which states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

a) any of sections 10, 10A, 10B, and 20A; or

b) a national environmental standard, a rule, a resource consent, or a designation.

Consent Impact Monitoring

13. In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council will levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Council’s Annual Plan process.

Debt Recovery

14. It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

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HBRC CONSENT – DISCHARGE TO LAND AND WATER – CONSTRUCTION, DEWATERING

Activity Description To discharge dewatering water associated with the construction of new stormwater and process water treatment facilities onto or into land (settling pond) and into water (Waitangi Estuary) in the Coastal Margin.

Consent Duration ~~1035~~ years from the commencement date of this consent.

Commented [AA98]: Typo. Noted in DHB submission. Changed to 10 year term.

CONDITIONS

1. The activities authorised by this consent shall be undertaken generally in accordance with the Assessment of Environmental Effects dated 30 November 2021 and associated management plans ~~dated 30 November 2021~~ and other information supplied as part of the application for this resource consent. If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.
2. Prior to the discharge of water from dewatering the consent holder shall prepare a Construction Environmental Management Plan (CEMP) with the objective of ensuring the take of dewatering water shall be managed to minimise environmental effects. The dewatering discharge section of the CEMP shall be prepared by a person who is suitably qualified and experienced in managing discharges to the receiving environment
3. The CEMP shall contain the following information regarding dewatering:
 - a) Procedures for assessing the quality of the dewatering water to determine its quality prior to discharge. These shall be prepared in accordance with advice from a suitably qualified and experienced contaminated land practitioner;
 - b) Water quality limits for discharges of dewatering water to the receiving environment, based on advice from a suitably qualified and experienced surface water quality scientist or ecologist;
 - c) Procedures for treating or managing the dewatering water, if necessary to meet the water quality limits for the environment;
 - d) Procedures for observing and monitoring the discharge, including the frequency of monitoring, location of monitoring, method of monitoring, and who will be responsible for the monitoring;
 - e) Details of actions that will be undertaken in the event that the monitoring of the discharge indicates that the water quality limits are not being met;
 - f) Details of reporting that will be undertaken in accordance with this consent.

Advice note:

It is expected that one CEMP will be prepared which will cover the requirements of all construction phase activities for this project, including take and discharge of dewatering water and excavations.

4. The dewatering sections of the CEMP shall be provided to the Council at least 20 working days prior to the dewatering discharge commencing, for certification that they meet the objective set in Condition 2 and cover the matters set out in Condition 3 above. Dewatering discharge shall not commence until certification of the dewatering sections of the CEMP has been received Council. Notwithstanding this, if 20 working days have passed and no correspondence has been received from the Council regarding the adequacy of the CEMP, the discharge may commence.

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5. Dewatering discharge shall be undertaken in accordance with the dewatering sections of the CEMP.
6. The dewatering discharge shall not cause erosion or scour of the receiving environment.
7. The dewatering discharge shall not cause or exacerbate flooding in the receiving environment.
8. The discharge shall not contain more than 100 milligrams per litre of total suspended solids.
9. The reporting required under the CEMP shall be provided to the Council on request.
10. The conditions of this consent may be reviewed by Council during the month of May of any year pursuant to sections 128 to 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The conditions may be reviewed for any of the following purposes:
 - a) To deal with any adverse effect on the environment which may arise from the exercise of the consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
 - b) To require that the discharge is consistent with requirements in a regional plan or a National Environmental Standard;
 - c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate, inaccurate or inadequate;
 - d) To modify and/or add conditions of consent in order to ensure that it is consistent with the operative provisions of a regional plan. This shall include (but not be limited to) conditions specifying any maximum or minimum levels, minimum flows and associated implementation timeframes, and/or abstraction rates or volumes (including allocation limits).

Administration

Notification of Changes to Details

11. It is the responsibility of the consent holder to inform the Council (Manager Consents) if any details regarding this consent, including any sale / purchase of the property and any change to contact details.

Routine Monitoring

12. Routine monitoring inspections will be undertaken by Council officers at a frequency of no more than once every year to check compliance with the conditions of the consent. The costs of any routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Non-routine Monitoring

13. "Non routine" monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA, which states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

a) any of sections 10, 10A, 10B, and 20A; or

b) a national environmental standard, a rule, a resource consent, or a designation.

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Consent Impact Monitoring

14. In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council will levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Council's Annual Plan process.

Debt Recovery

15. It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

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HBRC CONSENT –LANDUSE- CONSTRUCTION, EARTHWORKS AND VEGETATION CLEARANCE

Activity Description Vegetation clearance and soil disturbance activities in the Coastal Margin associated with:

- Erection, reconstruction, placement, alteration, extension, removal, or demolition of stormwater and process water treatment and discharge structures; and
- Wetland restoration activities

Consent Duration ~~35-10~~ years from the commencement date of this consent.

Commented [AA99]: Typo. Noted in DHB submission. Changed to 10 year term.

CONDITIONS

1. The activities authorised by this consent shall be undertaken generally in accordance with the Assessment of Environmental Effects ~~dated 30 November 2021~~ and associated management plans ~~dated 30 November 2021 and other information supplied as part of the application for this resource consent.~~ If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail. Where a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.
2. The planting and associated works authorised by this consent shall be undertaken in the area and for the purposes described in *Ravensdown Napier Works, Habitat Abundance and Restoration Plan*, ~~November 2021~~ *September 2022*.
3. Within six months from the commencement date of this consent, the consent holder shall reconvene the HARP Advisory Group made up of Mana Whenua, HBRC (landowner) representatives and other interest stakeholders.
4. The consent holder shall ensure that any contractors engaged to undertake work authorised by this consent abide by the conditions of this consent. The person responsible for the work on site shall be familiar with the consent conditions and a copy of this consent shall be present on site at all times while the work is being undertaken.
5. All practicable measures shall be implemented to minimise sediment discharges into waterbodies.
6. All disturbed areas shall be stabilised as soon as practicable following completion of the works.
7. The earthworks and vegetation clearance shall occur in accordance with an Erosion and Sediment Control Plan (ESCP). The objective of the ESCP shall be to detail the best practicable erosion and sediment control measures that will be taken to ensure compliance with this resource consent. The Plan shall be prepared as far as practicable to be in accordance with the Hawke's Bay Water Guidelines: Erosion and Sediment Control (2009).

Commented [AA100]: Date moved to accommodate updated version / references to management plans

Commented [AA101]: Updated reference

Advice Note:

The requirement for a ESCP for these works is also contained in the associated Napier City Council resource consent and only one Plan is required for certification by both Councils).

8. The ESCP shall be provided to the Council at least 20 working days prior to the earthworks and/or vegetation removal commencing, for certification that it meets the objective set out in Condition 7 and is prepared as far as practicable to be in accordance with the Hawke's Bay Water Guidelines: Erosion and Sediment Control (2009).



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9. Earthworks and vegetation clearance shall not commence until certification of the ESCP has been received from Council. Notwithstanding this, if 10 working days have passed and no correspondence has been received from the Council regarding the adequacy of the ESCP, the works may commence.
10. The ESCP may be amended at any time. Any amendments shall be:
 - a) Only for the purpose of improving the efficiency of the erosion and sediment control measures or the management of contaminated soil and shall not result in reduced efficacy of the management;
 - b) Consistent with the conditions of this resource consent; and
 - c) Submitted in writing to the Council, prior to any amendment being implemented.
11. The consent holder shall check, clean and dry machinery used in the bed of the waterbody or drain to limit the spread of aquatic and plant pests.
12. Where, for any cause (accidental or otherwise), contaminants associated with the consent holder's operations escape to water other than in conformity with the consent, the consent holder shall:
 - a) Immediately stop all works authorised by this resource consent; and,
 - b) Immediately take all practicable steps to contain and then remove the contamination from the environment,
 - c) Immediately notify the Council of the escape; and,
 - d) Report to the Council, in writing and within 7 days, describing the manner and cause of the escape and the steps taken to control it and prevent its reoccurrence.
13. In the event of any archaeological site or waahi tapu being uncovered during the exercise of this consent, activities in the vicinity of the discovery shall cease. The consent holder shall contact the Council (Manager Compliance) to obtain contact details of the relevant tangata whenua. The consent holder shall then consult with the relevant local hapū or marae and the Heritage New Zealand Pouhere Taonga, and shall not recommence works in the area of the discovery until the relevant Heritage New Zealand Pouhere Taonga and tangata whenua approvals to damage, destroy or modify such sites have been obtained.
14. The conditions of this consent may be reviewed by Council during the month of May of any year pursuant to sections 128 to 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The conditions may be reviewed for any of the following purposes:
 - a) To deal with any adverse effect on the environment which may arise from the exercise of the consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
 - b) To require that the discharge is consistent with requirements in a regional plan or a National Environmental Standard;
 - c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate, inaccurate or inadequate;
 - d) To modify and/or add conditions of consent in order to ensure that it is consistent with the operative provisions of a regional plan.

*Ravensdown Ltd, Napier Works Sustainable Site Project - Proposed Conditions, September 2022
Prepared for Pre-Hearing Meeting #2 in response to s92 conditions questions, expert
conferencing, and some submitter points where agreed by consent holder.*

Hawke's Bay Regional Council Resource Consent Plans



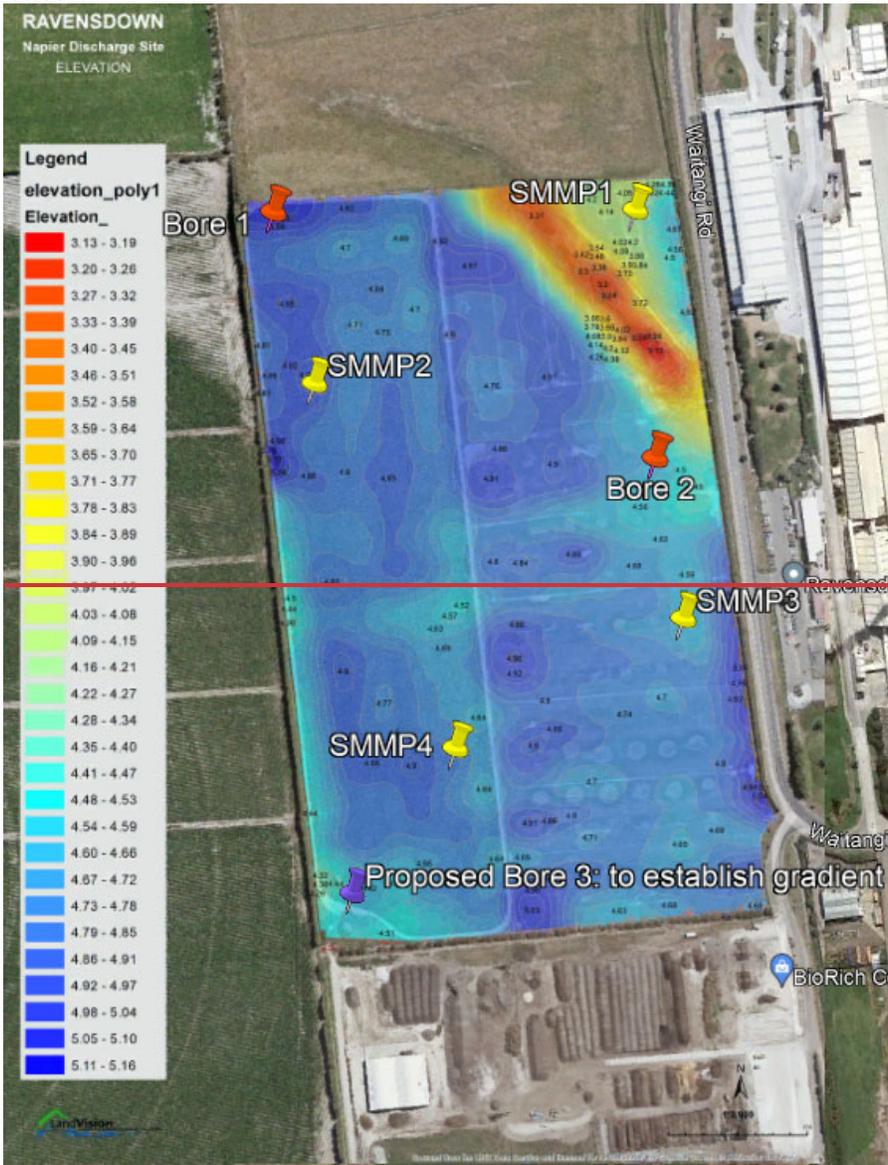
Ravensdown Ltd, Napier Works Sustainable Site Project - Proposed Conditions, September 2022
Prepared for Pre-Hearing Meeting #2 in response to s92 conditions questions, expert
conferencing, and some submitter points where agreed by consent holder.

Plan A – Ambient air monitoring locations

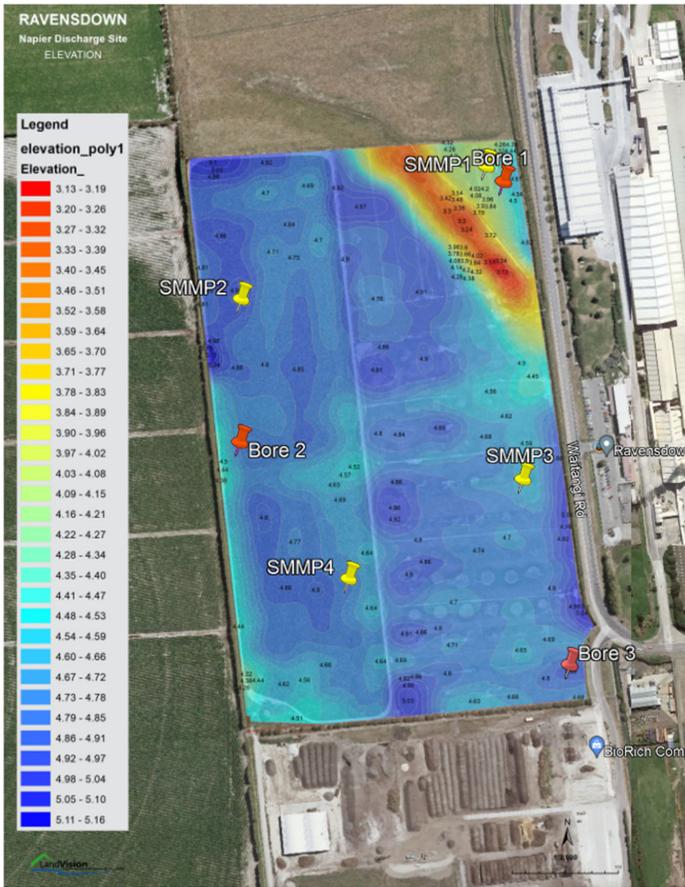


Ravensdown Ltd, Napier Works Sustainable Site Project - Proposed Conditions, September 2022
 Prepared for Pre-Hearing Meeting #2 in response to s92 conditions questions, expert
 conferencing, and some submitter points where agreed by consent holder.

Plan B – Land Discharge area, Soil Moisture Monitoring and Groundwater Monitoring Bore Locations



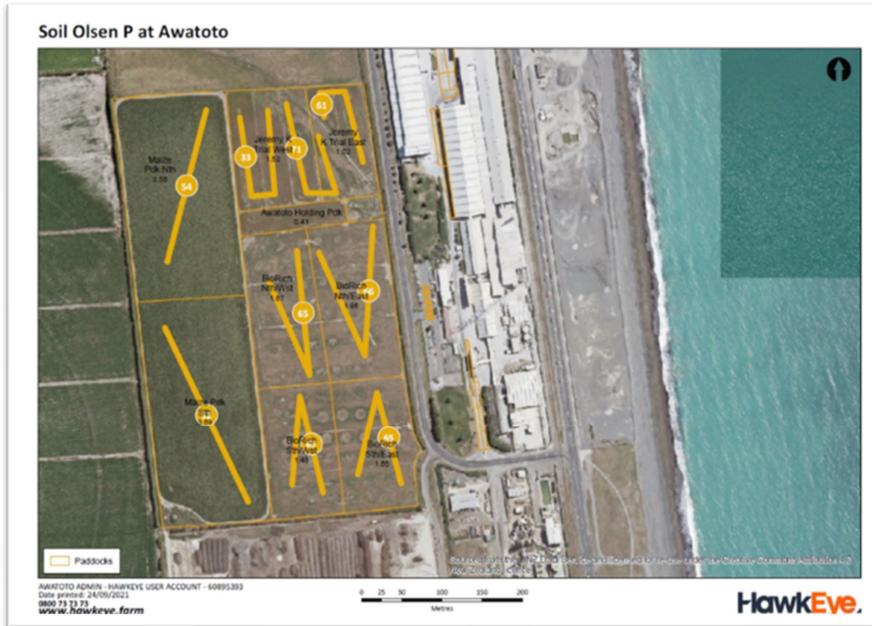
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Commented [AA102]: Revised plan for monitoring bore locations based on s92 request (Mott MacDonald) and agreement by Bay Geological Services.

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Plan C – Land Discharge Soil Sampling Locations



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Plan D – Plan Showing Water Discharge point, Ravensdown Drain and HARP Area



Page 15: [1] Commented [AA36R35] Anita Anderson 07-Sep-22 12:40:00 PM

Ravensdown is seeking approval of the AMP as part of the application. No review or approval condition is required. No ability to review the management plan to alter the upgrade commitments or timeframes is provided for. In order to clarify this the review clause in the November 2021 AMP has been deleted in the September 2022 version provided with these updated conditions.

It is important to recognise that the AMP reporting condition 18k requires a comprehensive report to council if the water quality parameters are not met after stage 2 of the AMP process to deal with any further actions with specific timeframes that are required to achieve compliance.

Reference has been updated to September 2022

Page 16: [2] Commented [AA46] Anita Anderson 06-Sep-22 2:13:00 PM

F & B Submission

Condition 15 parameters for discharge to land are not improved from current parameters after stage 2 is complete.

Condition 15 a) requires compliance with current discharge parameters in Table 1 95% of the time -therefore 5% of time there is no limit or requirements to address any elevated levels.

Condition 15 a) fails to capture the parameters in Table 1 to be achieved 99% of the time.

Page 16: [3] Commented [AA48] Anita Anderson 22-Jun-22 11:35:00 AM

30 May 2022

Clarify column titles

S Smith suggested clarifications needed to headings which have been completed.

Change made to reference 2007 discharge permit and column titles.

Page 16: [4] Commented [AA49] Anita Anderson 06-Sep-22 1:46:00 PM

Mott Mac s92 comment

Additional condition(s) required to define how many samples are required, time period to be covered, and method of calculation for 95th percentile

Page 16: [5] Commented [AA50R49] Anita Anderson 07-Sep-22 2:37:00 PM

Condition 17 provides details of sampling and methodology.

No changes to conditions proposed

Page 16: [6] Commented [AA52] Anita Anderson 06-Sep-22 1:46:00 PM

Mott Mac s92 comment

If the collection point for these contaminants includes dilution water upstream, then load based parameters will be required.

Page 16: [7] Commented [AA53R52] Anita Anderson 07-Sep-22 2:47:00 PM

There is no allowance in the water take permit application to use water for dilution apart from 637m3 to maintain the HARP and this is not proposed.

No changes to conditions proposed.



ATTACHMENT 3

Proposed Conditions (Clean) -
September 2022 version

*Ravensdown Ltd, Napier Works Sustainable Site Project - Proposed Conditions, September 2022
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RAVENSDOWN LTD
NAPIER WORKS SUSTAINABLE SITE PROJECT
HAWKE'S BAY REGIONAL COUNCIL RESOURCE CONSENTS
PROPOSED CONDITIONS

Updated September 2022

HBRC CONSENT - DISCHARGE TO AIR

Activity Description: To discharge contaminants into the air from the operation and maintenance of a sulphuric acid and fertiliser manufacturing plant at Awatoto including all ancillary activities.

Consent Duration: 35 years from the commencement date of this consent.

CONDITIONS

1. The activities authorised by this consent shall be undertaken generally in accordance with the Assessment of Environmental Effects dated 30 November 2021 and associated management plans and other information supplied as part of the application for this resource consent. If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.
2. There shall be no discharge of particulate matter (including dust) or odour that causes an offensive or objectionable effect beyond the boundary of the site.
3. Notwithstanding any other condition of this consent, there shall be no discharge to air from the site of gases, airborne liquid or other airborne contaminants beyond the site, that causes adverse effects on human health, ecosystems or property.

Advice Note:

For the purpose of this condition the term site shall mean 'land and all assets on it'.

Product Storage

4. All bulk raw materials stored on site shall be kept inside a building.
5. The consent holder shall ensure regular sweeping of yard and road areas using mechanical cleaning to minimise emissions of dust beyond the boundary of the site

Acid Plant

6. The Acid Plant stack shall be no less than 55 metres above ground level, the furnace pre-heat stack no less than 18 metres above ground level, and the auxiliary boiler stack no less than 15.8 metres above ground level.
7. The emission rate of Sulphur Dioxide (SO₂) from the Acid Plant stack shall not exceed 1.5 kilograms (kg) per minute (two minute average) and:
 - a) 60 kg/hour (one hour average) at any time until completion of the construction and commissioning of the replacement Acid Plant Converter.
 - b) 40kg/hr (one hour average) at any time following construction and commissioning of the replacement Acid Plant Converter..
8. The combined discharge rate of Sulphur Trioxide (SO₃) and Sulphuric Acid (H₂SO₄) (expressed as SO₃) from the acid plant stack shall not exceed:
 - a) 2 kg/hr as a 1-hour average at any time;
 - b) 0.5 kg/hr for at least 50% of the monitored 1-hour averages in any 3 month period.
9. The discharge from the acid plant may contain up to 150 milligrams per cubic metre (mg/m³) at NTP SO₃ / H₂SO₄ expressed as SO₃ for not more than 4 hours after igniting sulphur in the case of a cold start and not more than 1 hour in the case of a warm start up. This shall be

measured in accordance with USEPA method 8 or another method as approved by Council.

Advice note:

The NTP (Normalised Temperature and Pressure) for the purposes of this consent is based on 0 degrees Celsius at 1 atmosphere pressure.

10. The discharge from the acid plant shall not occur during wind directions between 030 and 155 (onshore winds) between the months of September to May inclusive, when either of the following meteorological conditions occur:
 - a) The relative humidity measured on-site at 10 metres above ground level is 92% or greater, wind speed at 10 metres above ground level is 3 m/s or less and it is not raining; or
 - b) The relative humidity measured on-site at 10 metres above ground level is 95% or greater, wind speed at 10 metres above ground is greater than 3 m/s and it is not raining.
11. Acid plant discharge shall cease within 30 minutes of the above meteorological conditions being detected and shall not recommence until these conditions have not occurred for a period of at least 30 minutes. Plant operators shall be alerted when the measured relative humidity at 10 metres above ground during onshore winds (030-155 degrees) exceeds 90%, and careful observation of meteorological conditions and the visible plume discharge shall occur during such conditions. A record shall be kept of the dates, time periods and meteorological conditions when the acid plant operation ceases according to this condition. This record shall be provided to the Council on request and otherwise annually.
12. A system shall be maintained that automatically shuts off the sulphur feed to the burner so that the discharge to air rate of SO₂ from the sulphuric acid production process does not exceed the emission rates set out in Condition 7.

Manufacturing Plant

13. Stack Height
 - a) Prior to the commissioning of the new combined Manufacturing stack, discharges from each den scrubber shall be via stacks with a height of no less than 38 metres above ground level.
 - b) Prior to the commissioning of the new combined Manufacturing stack discharges from the hygiene scrubber shall be via a stack with a height of no less than 36 metres above ground level.
 - c) The combined Manufacturing stack shall be installed and operational by 1 January 2024 with a discharge height, including cawling, of no less than 50 metres above ground level as measured from the base of the stack.
14. All extracted emissions from the superphosphate manufacturing process shall be discharged through either the den stacks or the hygiene stack, or the combined manufacturing stack following its commissioning.
15. The rate of particulate matter discharged from any Bradley mill shall not exceed 1 kg/hr per mill, and 2 kg/hr in total when two or more mills are in operation.
16. The sum of the fluoride compounds discharged from the den stacks and the hygiene stacks, (prior to the commissioning of the combined manufacturing stack) measured in the samples taken in accordance with Condition 26 expressed as fluoride on a one-hour average basis, shall not exceed:
 - a) a maximum discharge rate of 1.5 kg/hr; and
 - b) 1 kg/hr in more than 50% of samples taken in any 12-month period.

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17. The sum of the fluoride compounds discharged from the combined manufacturing stack (after commissioning) measured in the samples taken in accordance with Condition 27 expressed as fluoride on a one hour average basis, shall not exceed a maximum discharge rate of 1 kg/hr.
18. The pH of the condensate from the den and hygiene stacks or the Manufacturing stack, shall be no lower than 2.7 except in the period August to September when the pH shall be no lower than 4.0.
19. An automated water deluge system for the manufacturing den mixer shall be used to minimise contaminant discharges in the event of failure of the mixing process.

Cooling Towers

20. The evaporative cooling towers shall be regularly dosed with micro-biocides to maintain the concentration of the micro-biocide in the cooling water at the level recommended by the supplier that prevents the establishment of Legionella bacteria. Records shall be kept to demonstrate compliance with this condition and shall be provided to the Council on request.

Source Control Management

21. The consent holder shall undertake actions as described in the *Ravensdown Napier Works Source Control Management Plan September 2022* required by condition 13 of the general conditions relating to both land and water discharge permits, to reduce the concentrations of fugitive airborne contaminants from the site.

Onsite Monitoring

22. The consent holder shall operate a meteorological station in a location that reasonably represents meteorological conditions on the site. The station shall continuously record, wind speed, wind direction, temperature and relative humidity, and display them in real time in the manufacturing control room and the acid plant control room. The location and the resolution, accuracy and averaging time of monitoring equipment shall be agreed in writing by the Council. All processed data shall be archived and made available to the Council on request.
23. All sampling and surveys shall be carried out by an independent suitably qualified person, or by the consent holder or its representative where the Council has agreed to this in writing. Where the consent holder or its representative carries out testing or monitoring, an independent suitably qualified person shall audit the monitoring and testing methodology at least once per year, unless otherwise agreed in writing by the Council, and shall provide a written report describing the extent of compliance with the required protocol. A copy of this report shall be provided to the Council as part of the Annual Report.
24. All analyses in accordance with conditions on the consent shall be carried out by an independently accredited laboratory to ISO/IEC Guide 25, or to the satisfaction of the Council.
25. The consent holder shall continuously (i.e., at intervals not exceeding 1 minute) measure the rate of SO₂ discharge in the emissions from the acid plant stack. The method of measurement shall be in accordance with ISO10396:2007 (*Stationary source emissions – Sampling for the automated determination of gas emission concentrations for permanently – installed monitoring systems*) or an alternative method, approved in writing by the Council. Testing results shall be reported in the Annual Report as a mass emission rate in units of kg/hr as both 1-minute and 1-hour averages.
26. The consent holder shall measure the rate of discharge of SO₂, SO₃ and H₂SO₄ in the emissions from the acid plant stack, at least twice per year at times when acid is being produced. This monitoring shall be undertaken in accordance with USEPA Method 8 (“Determination of sulphuric acid mist and sulphur dioxide emissions from stationary sources”) or an alternative method that is approved, in writing, by the Council.

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27. The consent holder shall measure the discharge rate of fluoride in the emissions from manufacturing stacks monthly. The measurement is to be carried out during superphosphate manufacture and no test may commence within one hour of starting acidulation. The method of measurements shall be in accordance with USEPA Method 13B (“Total fluoride specific ion electrode”) or an alternative method approved, in writing, by the Council.
28. The consent holder shall measure the rate of discharge of SO₂ in the emissions from the manufacturing stacks monthly. The measurement is to be carried out during superphosphate manufacture and no test may commence within one hour of starting acidulation. This monitoring shall be undertaken in accordance with USEPA Method 8 (“Determination of sulphuric acid mist and sulphur dioxide emissions from stationary sources”) or an alternative method that is approved, in writing, by the Council.
29. The rate of particulate matter discharged from each mill shall be measured at least once every 6 months. The method of sampling and analysis shall comply with USEPA Method 5 or Method 17, ISO 9096:2003 or ASTM D3685-98, or a similar iso-kinetic method to the satisfaction of the Council. The testing time for each sample shall be 2- hours continuous, and at least three samples shall be collected. Results shall be adjusted to 0°C, 101.3 kilopascals, on a dry gas basis, and as a mass emission from each stack expressed as kg/hr.
30. The baghouses shall be continuously monitored using an electrostatic probe to detect broken bags in the Bradley mills. A central alarm system shall be operated to warn the plant operator of a bag breakage or any change in pressure that may indicate a broken filter bag. The bag filters serving the Bradley mills shall also be manually inspected on a regular basis and shall be replaced where the inspection reveals excessive wear. Records shall be kept of Bradley mill shutdowns, manual inspections and filter bag replacements. These records shall be provided to the Council on request.
31. The pH of the condensate from the Manufacturing stack shall be measured monthly. The method by which the condensate is to be measured shall be approved in writing by the Council.

Offsite and Ambient Monitoring

32. The consent holder shall measure ambient fluoride, in accordance with the monitoring plan required by Condition 46 and based on a continuous filter exposure period of 7-days. The results shall be reported as average concentration (µg/m³) over that 7-day sample period. Measurements shall be taken at the following sites, listed below;

Site	Easting (NZMG)	Northing (NZMG)
Brookfields Orchard	28452407	6175251
Plumpton Park	2844864	6177075
Ravensdown Back Paddock	2846499	6175772
Ravensdown Front Paddock	2846745	6176068
<i>[New site east of Ravensdown Napier Works]</i>	<i>[Location to be defined in consultation with HBRC]</i>	
<i>[New site in the vicinity of the Napier City Council Cross Country Drain pumping station]</i>	<i>[Location to be defined in consultation with HBRC]</i>	

33. The location of the sites are shown on HBRC Conditions Plan A. Locations may be modified after securing the agreement of the relevant landowner and with the written approval of the

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- Council. The concentration of fluoride in ambient air measured in accordance with Condition 32 shall not exceed $0.8 \mu\text{g}/\text{m}^3$ (7 day average) at areas used for horticultural production (including Brookfields Orchard and Plumpton Park (locations as detailed in Condition 32).
34. The 7-day average concentration of fluoride measured at the Ravensdown Back Paddock and [new northern site] monitoring site (location as detailed in Condition 32), shall not exceed $1.7 \mu\text{g}/\text{m}^3$.
 35. The 7-day average concentration of fluoride measured at the Ravensdown Front Paddock and [new eastern site] monitoring sites (locations as detailed in Condition 32), shall not exceed $5.5 \mu\text{g}/\text{m}^3$.
 36. The consent holder shall ensure ambient fluoride measurement is undertaken in accordance with AS3580.13.2 – 1991 (“Method 13.2: Determination of fluorides – Gaseous and acid soluble particulate fluorides – Manual, double filter paper sampling”) or an alternative method approved, in writing, by the Council.
 37. Ambient fluoride measurement undertaken in accordance with Condition 32 shall occur at a height of 2.4 metres above ground level.
 38. Fugitive SO_2 monitoring:
 - a) The consent holder shall install and operate at least two ambient SO_2 monitors around the acid plant in order to detect fugitive SO_2 emissions. The monitoring sites shall be located east of Ravensdown Napier Works, and at the Ravensdown Back Paddock monitoring site as described in Condition 32 and shall be agreed in writing by the Council prior to establishment. The concentration of SO_2 in ambient air shall be monitored continuously (at least every minute) by UV fluorescence analysis, according to the method of measurement AS3580.4.1 – 1990 (“Method 4.1: Determination of sulphur dioxide – direct reading instrumental method”), or an alternative method agreed to in writing by the Council; and
 - b) In the event that ambient concentrations of SO_2 measured at either of the monitoring sites described by Condition 38 (a) exceed $350 \mu\text{g}/\text{m}^3$ as a 10-minute average, immediate action shall be taken to ensure that measured SO_2 concentrations are reduced to less than $350 \mu\text{g}/\text{m}^3$ as a 10 minute average. A record shall be kept of all occurrences when measured SO_2 concentrations exceed this limit and the corrective action taken. This record shall be provided to the Council on request and otherwise annually.
 - c) Any exceedance of the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 (NES) for SO_2 shall be reported as soon as practicable after detection.
 39. Concentrations of $\text{PM}_{2.5}$ and PM_{10} in ambient air shall be monitored continuously at two sites according to a method of measurement that complies with the monitoring requirements in the NES, or an alternative method agreed to in writing by the Council. The monitoring shall begin within 3 months of commencement of this consent. The monitoring sites shall be located east of Ravensdown Napier Works, and at the Ravensdown Back Paddock monitoring site as described in Condition 32 and shall be agreed in writing by the Council prior to establishment. Results shall be provided as a 24-hour average. Any exceedance of the NES for $\text{PM}_{2.5}$ and PM_{10} shall be reported as soon as practicable after detection.
 40. The consent holder shall undertake a Window Clarity survey on receipt of a reasonable request from a property owner within 1 km of the manufacturing plant stack using the methodology outlined in the BRANZ report DCZ059 (25 June 2004). Any windows found to be affected to ‘pen test level 3’ or where Light Gloss Units (LGU) are equal or less than 115 as described in BRANZ report DCZ059, shall be replaced by the consent holder if the property owner wishes the glass to be replaced.

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41. The consent holder shall undertake a vegetation monitoring programme that has been approved by the Council in accordance with the monitoring plan required Condition 46 of this consent. The programme shall provide for the following matters:
- a) A visual assessment of vegetation; and
 - b) A determination of foliar fluoride concentrations; and
 - c) The timing of the vegetation monitoring programme (which shall occur during the months of September to May inclusive for the duration of the consent, unless otherwise agreed in writing by the Council); and
 - d) The monitoring methodology which shall be agreed in writing by the Council; and
 - e) The location of any monitoring, including but not limited to the following sites.

Site	Easting (NZMG)	Northing (NZMG)
Brookfields Orchard, Kings Road	28452407	6175251
Plumpton Park Orchard, Awatoto Road	2844864	6177075
Simkin Orchard, Awatoto Road	2844899	6177531
T&G, Willowbank Road	2845130	6177681
Johnny Appleseed Orchard, Brookfields Road, Meeanee	2844016	6174605
Dewer Orchard, Awatoto Road	2845361	6176994
Johnny Appleseed Orchard, King Road, Meeanee		
Brookfields Winery, Brookfields Road		

Advice Note:

The location of the monitoring sites, frequency of monitoring and analytes monitored may only be modified as appropriate with the written agreement of the Council based on any future landuse or property ownership changes which may occur through the life of the consent.

Reporting

42. The consent holder shall advise the Council at least 24 hours in advance of a planned warm or cold restart of the acid plant. The Council shall be advised of the proposed time when sulphur will be ignited.
43. At monthly intervals the consent holder shall provide the Council with a report if any exceedance of limits of any conditions of this consent has occurred along with an explanation of the reasons for the exceedance.
44. The consent holder shall produce a report every year (the “Annual Report”) that presents and summarises all information on the monitoring required by this consent. The report shall include, but not necessarily be limited to:

- a) Results of monitoring of dust, PM_{2.5}, PM₁₀, SO₂, fluoride and acidic compounds;
 - b) The fluoride and foliar monitoring report;
 - c) Any odour or dust complaints;
 - d) A description of any potential and actual effects that have been identified;
 - e) Identification of trends of monitoring information;
 - f) A summary of any air emission control equipment modifications;
 - g) Recommendations for system improvements; and
 - h) The annual report shall be prepared for the period beginning July and ending June of the following year and provided to the Council before 31 October each year.
45. The consent holder shall maintain a log of all complaints received directly from the public. The log shall include:
- a) The date, time, and nature of the complaint;
 - b) The telephone number, and address of the complainant (if provided);
 - c) Weather information (including an estimate of wind speed and direction);
 - d) Details of key operating parameters at the time of the complaint; and
 - e) The remedial action taken, as appropriate, to prevent further incidents.

Complaints and any immediate actions taken by the consent holder shall be reported to the Council as soon as practicable and within 48 hours of receipt and the log of complaints shall be made available to the Council on request.

Management and Monitoring Plan

46. The consent holder shall prepare and submit to the Council for approval within six months of the date of commencement of this consent and within six months from the commissioning of the combined Manufacturing stack, an Air Discharge Management and Monitoring Plan with the Objective of detailing how all discharges to air from the site and their effects will be measured, assessed and managed in accordance with these conditions. The Management and Monitoring Plan shall be complied with at all times during the exercise of this consent, and shall include:

Management of:

- a) Dust including particulate;
- b) Sulphur dioxide;
- c) Acidic discharges;
- d) Fluoride;
- e) Odour;
- f) Sampling methods;
- g) Analytical methods;
- h) Reporting requirements;
- i) Sampling locations;
- j) Sampling frequencies; and
- k) Auditing and peer review.

Monitoring of:

- a) Manufacturing stack monitoring requirements;
- b) Acid plant stack monitoring requirements;
- c) Grinding mill stack monitoring requirements;
- d) Ambient SO₂, particulate matter and H₂S monitoring;
- e) Offsite ambient fluoride monitoring requirements, and
- f) Offsite vegetation fluoride monitoring requirements.

Technology Review

47. At years 10, 20 and 30 following the commencement of this consent, the consent holder shall commission a suitably qualified and experienced expert to prepare a Best Practicable Option technology review (covering the matters described in Part 2 under the definition of Best Practicable Option of the RMA) of the plant and systems that are utilised on the site for managing air discharges. The BPO Technology Review Report shall contain information on the suitability and practicability of any new best practice technology or operational procedure being applied at similar plants internationally, and must make recommendations as to whether and when any such technology or procedures should be applied to the consent holders operations.. A copy of the BPO Technology Review Report shall be provided to the Council (Manager Compliance).

Administration

Notification of Changes to Details

48. It is the responsibility of the consent holder to inform the Council (Manager Consents) if any details regarding this consent, including any sale / purchase of the property and any change to contact details.

Routine Monitoring

49. Routine monitoring inspections will be undertaken by Council officers at a frequency of no more than once every year to check compliance with the conditions of the consent. The costs of any routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Non-routine Monitoring

50. "Non routine" monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA, which states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

a) any of sections 10, 10A, 10B, and 20A; or

b) a national environmental standard, a rule, a resource consent, or a designation.

Consent Impact Monitoring

51. In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council will levy additional charges for the cost of monitoring the

environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Council's Annual Plan process.

Debt Recovery

52. It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

Review

53. The conditions of this consent may be reviewed by Council during the month of May of any year pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The consent(s) may be reviewed for any of the following purposes:
- a) To deal with any adverse effect on the environment, including those associated with climate change, which may arise from the exercise of the consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
 - b) To require that the discharge is consistent with requirements in a regional plan or a National Environmental Standard;
 - c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate, inaccurate or inadequate; and
 - d) To require the adoption of the best practicable option to remove or reduce any effects on the environment;

HBRC CONSENT – DISCHARGE TO LAND

Activity Description To discharge treated stormwater and process water and associated contaminants from a sulphuric acid and fertiliser manufacturing plant at Awatoto to land in circumstances where contaminants will be absorbed by crops and soils and/or may enter shallow groundwater.

Consent Duration 35 years from the commencement date of this consent.

CONDITIONS

1. The activities authorised by this consent shall be undertaken generally in accordance with the Assessment of Environmental Effects dated 30 November 2021 and associated management plans and other information supplied as part of the application for this resource consent. If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.
2. The discharge to land from the site shall be in accordance with the general conditions attached as Appendix 1 to this consent and within the irrigation area shown on Plan B attached to this consent.

Advice Note:

For the purposes of this consent “discharge” refers to stormwater, process water and groundwater added to the stormwater system for the purpose of sustaining constructed wetland and stormwater device vegetation and non-commercial crops used in the treatment process.

3. The discharge shall be onto vegetated land. Vegetated land includes land where vegetation is actively growing or senescing and cultivated for vegetation establishment.
4. The rate of discharge shall not exceed 12 millimetres per hour.
5. The discharge to land shall not cause surface ponding or overland flow from the site.
6. No animals shall be grazed in the irrigation area.

Monitoring

Soil Moisture Monitoring

7. Soil moisture within the discharge area shall be continuously monitored using soil moisture probes. The discharge system shall be configured so that there is no discharge onto land when soil moisture at the soil moisture probes exceed 85 percent of soil capacity (refer Plan B A)
8. Soil moisture monitoring results shall be recorded for each monitoring point, including results of annual calibration of soil moisture monitoring equipment. The results shall be provided to the Council on request.

Soil Chemistry Monitoring

9. Nine sampling sites are to be established across the 17.5 ha to represent the overall sites’ soil chemical and physical properties of the Land Discharge area. Each sampling site is represented by GPS points within Ravensdown’s spatial information system (Hawkeye™) to ensure that ongoing monitoring is from the same geospatial locations (refer Plan C).
10. Sampling sites are to be sampled at a 15cm depth and represented by 15 to 20 cores from each site.
 - a) Sampling sites are to be resampled on an annual basis for the first five years to establish baseline data. From then on they are to be sampled on a biannual basis during late

winter/early spring to monitor trends over time (or as required). Results are to be stored within Hawkeye.

11. The soil analysis will consist of:
 - a) Soil pH, Olsen P, K, Mg, Ca, Na, Sulphate S and Organic Sulphur,
 - b) Potentially Mineralisable Nitrogen (PMN)
 - c) EDTA (Co, Mn, Fe, Cu, Zn)
 - d) EPA Heavy Metal Suite (As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
 - e) Total soil F.

Groundwater Quality Monitoring

12. Groundwater quality monitoring shall be undertaken twice annually for the first year, and annually thereafter, at three shallow groundwater monitoring bores not more than six metres deep. One groundwater monitoring bore shall be located at the mid-point of the western boundary of the irrigation area (upgradient), and one bore each shall be located on the northern and southern ends of the eastern boundary of the irrigation area (down-gradient) (refer Plan B). A suitably qualified professional shall be onsite during the drilling of the monitor bores to ensure hydraulic gradient is as predicted by bore placement as displayed in Plan B. GPS coordinates of the final bore locations will be provided to the Council.
13. All groundwater quality monitoring undertaken in accordance with the conditions of this consent shall be carried out by a person suitably qualified and experienced in environmental monitoring. Any meters used for the monitoring shall be calibrated and operated in accordance with the manufacturer's specifications.
14. Groundwater samples collected in accordance with this consent shall be analysed for fluoride. All analyses in accordance with conditions of this consent shall be carried out by a laboratory that is IANZ accredited, or that is authorised by the Council (Manager Compliance).
15. In the event that the results of groundwater monitoring indicate a significant increase in fluoride in the downgradient bore in comparison to the upgradient bore the consent holder shall:
 - f) Commission a suitably qualified and experienced person to assess the risk to the environment from the exceedance, including consideration of the ecological effects and effects on groundwater quality for drinking water purposes;
 - g) If the assessment undertaken in accordance with Condition 15.a) identifies a risk to the environment as a result of the exceedance, potential options for reducing the concentration of fluoride in the groundwater shall be assessed;
 - h) Provide a report to the Council summarising the results of the risk assessment (Condition 15.a)) and options assessment (Condition 15.b)) within one year of the identification of the exceedance. This shall include an assessment of the actions to be undertaken to reduce the risk to the environment if one has been identified, including timeframes for undertaking these actions; and
 - i) Implement the improvement actions, within the timeframes specified.

Advice Note:

A significant increase in fluoride is defined as 1085 mg F/kg soil

Foliage Monitoring

16. The crop shall be sampled for dry matter and metabolisable energy according to the code of practice for the trading of pasture and whole crop forages. These samples should also be analysed for macronutrients to confirm the estimate of nutrients removed in the plan
17. Test unwashed samples from each forage cut intended for livestock consumption for fluoride levels in accordance with ANZEC guidelines.

Advice Note:

ANZEC guidelines are to manage the potential effect of aerosols containing fluoride being deposited on vegetation not from the discharge activity itself.

Appendix 1

Refer to the General Conditions relating to the both Land and Water Discharge Permits, following the Water Discharge Permit Consent.

HBRC CONSENT – DISCHARGE TO SURFACE WATER AND GROUNDWATER

- Activity Description** To discharge treated stormwater and process water and associated contaminants from a sulphuric acid and fertiliser manufacturing plant at Awatoto onto or into land and into water (Waitangi Estuary) in the Coastal Margin.
- Consent Duration** 35 years from the commencement date of this consent.

CONDITIONS

1. The activities authorised by this consent shall be undertaken generally in accordance with the Assessment of Environmental Effects dated 30 November 2021 and associated management plans and other information supplied as part of the application for this resource consent. If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.
2. The discharge into surface water from the site shall be in accordance with the general conditions attached as Appendix 1 to this consent, and to either the Ravensdown Drain or to the Habitat Abundance Restoration Programme (HARP) wetland area at GPS Co-ordinates NZTM 2000 5613817 1937000.

Advice Note:

For the purposes of this consent “discharge” refers to stormwater, process water and groundwater added to the stormwater system for the purpose of sustaining constructed wetland and stormwater device vegetation and non-commercial crops used in the treatment process.

3. The rate of discharge shall not exceed 265 litres per second.
4. The consent holder shall ensure that the activities authorised by this resource consent are designed, constructed and maintained so that they do not cause erosion or scour of the beds or banks of any receiving water bodies (including drains).

APPENDIX 1

GENERAL CONDITIONS RELATING TO BOTH LAND AND WATER DISCHARGE PERMITS

Water Discharge Hierarchy

1. The discharge shall be managed as follows:
 - a) Discharge shall be to land via spray irrigation whenever this meets the soil moisture content condition in the land discharge permit of less than 85 percent;
 - b) During times when discharge to land is not permitted (due to soil moisture exceeding 85 percent) under the land discharge permit conditions, discharge shall be to the Ravensdown Drain or Habitat Abundance Restoration Area (HARP) (refer Plan D) only between three hours before and three hours after high tide as at the Port of Napier tide gauge (“high tide discharge”); and
 - c) Outside of the discharge times in Condition 1.b , discharge to the Ravensdown Drain or Habitat Abundance Restoration Area (HARP) at any time on site storage capacity is likely to be exceeded.

Adaptive Management Plan Process

2. The discharge shall be undertaken in accordance with the *Ravensdown Napier Works: Water Discharge Adaptive Management Plan, September 2022*.
3. Until the Stage 1 Stormwater System Improvements are implemented, the discharge shall be via the stormwater system that existed at the site on 30 November 2021;
4. If required to ensure the discharge meets the water quality discharge parameters set out in Table 1 of General Condition 16, further stormwater system improvements and/or source control actions shall be implemented in accordance with the recommendations and timeframes recommended by the Comprehensive Review and the Adaptive Management Plan required by General Condition 18 (k).

Design Requirements

5. Following completion of the Stage 2 stormwater and process water treatment system improvements the site stormwater system shall have capacity to treat the first 75 millimetres of rainfall falling on the site.
6. All stormwater systems installed at the site in accordance with this consent shall be designed by a suitably qualified professional engineer, experienced in that field, to assist in meeting all standards and design requirements of this consent, and as set out in the application (as specified in the documents referenced in Condition 1 of this consent).
7. Final Design Plans of the stormwater and process water treatment system for each stage of stormwater system improvements shall be provided to the Council (Manager: Compliance) for certification that they are consistent with the conditions of this consent prior to construction commencing. If 20 working days have passed and no correspondence has been received from the Council regarding the adequacy of the stormwater system design it shall be deemed certified and construction may commence.
8. The final design plans shall demonstrate the following:
 - a) The storage volume, levels and dimensions of the stormwater treatment and attenuation devices sufficient to demonstrate that the stormwater devices have been designed in accordance with good practice guidance;

- b) That following the completion of the Stage 2 stormwater system improvements the discharge will meet the requirements of Table 1 of General Condition 16.
- 9. The stormwater system shall be constructed in accordance with the design plans certified in accordance with General Condition 6.

Engineering Plans – Post Construction

- 10. Following the completion of construction of each stage of the stormwater improvements, the consent holder shall provide Council with accurate as-built plans of the stormwater system, prepared by a suitably qualified and experienced professional engineer, confirming that the stormwater infrastructure has been installed in accordance with the certified final design plans.

Maintenance

- 11. The consent holder shall maintain the stormwater system in accordance with good practice to maintain the water quality and water quantity performance required by this consent.
- 12. The consent holder shall record the details of all inspections and works undertaken under General Condition 10. Those records shall be made available for inspection by the Council (Manager: Compliance) on request.

Source Control Management

- 13. The consent holder shall undertake the actions described in the *Ravensdown Napier Works Source Control Management Plan September 2022*, to reduce the concentrations and load of contaminants entering stormwater at the site within five years of the commencement of the consent.

Habitat Abundance Restoration Project

- 14. The consent holder shall undertake the habitat restoration works as set out within the *Ravensdown Napier Works, Habitat Abundance Restoration Project Plan September 2022*.
- 15. Prior to the commencement of construction, the consent holder will engage a suitably qualified expert to prepare a Restoration Plan that will meet the requirements of the Schedule 2 of the Resource Management (National Environmental Standards for Freshwater) Regulations 2020.

Water Quality Discharge Parameters to Water and Land

- 16. The consent holder shall ensure that:
 - a) From the time of commencement of this consent the discharge (at the point of discharge GPS Co-ordinates NZTM 2000 1936998 east, 5613831 north) shall comply with the 2007 discharge permit parameters in Table 1 in any 12-month period.
 - b) Discharges to land or water (at the point of discharge GPS Co-ordinates NZTM 2000 1936998 east, 5613831 north) shall comply with the relevant parameters in Table 1 (Discharge Parameters – Any Tide Discharge (post Stage 2) and Discharge Parameters – High Tide Discharge (post Stage 2)) for 95 percent of monitoring results in any 12-month period after the completion and monitoring of Stage 2 (six years following the commencement of this consent) as set out in the *Ravensdown Napier Works: Water Discharge Adaptive Management Plan, September 2022*.

Table 1 – Discharge water quality analytes and parameters

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Prepared for Pre-Hearing Meeting #2 in response to s92 conditions questions, expert conferencing, and some submitter points where agreed by consent holder.

Contaminant	2007 Discharge Permit Parameters (milligrams per litre)	Discharge Parameters – Any Tide Discharge (post Stage 2) and Land (milligrams per litre)	Discharge Parameters – High Tide Discharge (post Stage 2) (milligrams per litre)	Source For Parameter Value
Total Phosphorus	Less than 17 mg/L 95% of the time and less than 22 mg/L 99% of the time	N/A	N/A	N/A
Soluble reactive phosphorus	Less than 15 mg/L 95% of the time and less than 35 mg/L 99% of the time	0.042	0.0735	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary
Ammoniacal nitrogen Unionised ammonia based on pH8 at 20 deg C, all flows	N/A	0.28	0.49	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary
Nitrate nitrogen	N/A	Improving trend toward 0.14	Improving trend toward 0.245	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary
Nitrite	N/A	0.546	0.9555	Regional Coastal Environment Plan, Rule 17
Total nitrogen	N/A	Improving trend toward 0.308	Improving trend toward 0.539	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary
Total suspended solids (TSS)	100	70	122.5	Regional Coastal Environment Plan, Schedule D, Part II Standards that apply to specific catchments
pH	6.5 – 8.5	7.0-8.5	7.0-8.5	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary
Fluoride	30	14	24.5	Site specific value – Hickey 2004
Aluminium	N/A	0.154	0.2695	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary / Regional Coastal Environment Plan
Copper	N/A	0.00364	0.00637	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary / Regional Coastal Environment Plan
Cadmium	N/A	0.0154	0.02695	TANK Plan Change, s42A Addendum

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Contaminant	2007 Discharge Permit Parameters (milligrams per litre)	Discharge Parameters – Any Tide Discharge (post Stage 2) and Land (milligrams per litre)	Discharge Parameters – High Tide Discharge (post Stage 2) (milligrams per litre)	Source For Parameter Value
				report, Table 26.5.2, Waitangi Estuary / Regional Coastal Environment Plan
Chromium	N/A	0.0756	0.1323	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary / Regional Coastal Environment Plan
Nickel	N/A	0.196	0.343	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary / Regional Coastal Environment Plan
Zinc	N/A	0.042	0.0735	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary / Regional Coastal Environment Plan

Advice note:

For the purposes of this consent, these discharge parameters have been calculated so that the discharge will meet the relevant water quality standards beyond the zone of reasonable mixing for the discharge. Prior to the establishment of the HARP the zone of reasonable mixing shall be the Ravensdown Drain and 90 metres down the Awatoto Drain (GPS Co-ordinates NZTM 2000 1936918 east, 5613708 north). At the completion of Stage 2 of the Adaptive Management Plan the consent holder shall commission a suitably qualified expert to undertake a dye study to recalculate the zone of reasonable mixing once the new HARP wetland is established.

Discharge Monitoring

17. The consent holder shall carry out the following monitoring:

- a) A sampling station shall be maintained at the Discharge Pond outlet and be accessible to Council officers or its agents at all times.

A representative, flow-proportional, composite sample (sampled continuously over a period of one week) shall be collected from the sampling station, referred to in Condition 16, at least once per week when discharge is occurring and tested for the following parameters:

- i. pH
- ii. Total phosphorus
- iii. Soluble reactive phosphorus
- iv. Fluoride

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- v. Total suspended solids
- vi. Total nitrogen
- vii. Nitrate nitrogen
- viii. Nitrite
- ix. Ammoniacal nitrogen

Results shall be recorded on a mass per unit volume of discharge basis and the volume of discharge shall also be recorded. The records shall be forwarded to the Council at monthly intervals, along with an assessment of compliance against Table 1 of General Condition 16.

- b) A representative, flow-proportional, composite sample (sampled continuously over a period of one week) shall be collected from the sampling station, referred to in Condition 16, at six monthly intervals and tested for the following parameters:
- i. Dissolved copper
 - ii. Dissolved zinc
 - iii. Dissolved cadmium
 - iv. Dissolved chromium
 - v. Dissolved aluminium
 - vi. Dissolved nickel
 - vii. Total sulphur

Results shall be taken on a mass per unit volume of discharge basis and the volume of discharge taken shall also be recorded. The records shall be forwarded to the Council at six monthly intervals.

- c) All sampling in accordance with the conditions of this consent shall be carried out by a person suitably qualified and experienced in environmental monitoring.
- d) All analyses in accordance with conditions of this consent shall be carried out by a laboratory that is IANZ accredited, or that is authorised by the Council (Manager: Compliance).
- e) The consent holder shall calibrate and operate any meters required for monitoring in accordance with the manufacturer's specifications.
- f) In the event the values in General Condition 16 Table 1 are exceeded the Consent Holder may have the sample re-tested to confirm that the exceedance was not due to a testing error. In these circumstances the exceedance only needs to be reported to the Consent Authority in accordance with General Condition 18 if the re-tested sample confirms the exceedance.

Reporting

18. The consent holder shall prepare an annual report for the period of July to June each year and, by the 30 November following that period, submit it to the Council. The report shall summarise monitoring and compliance against the consent conditions and discuss any non-compliance and recommended necessary actions to achieve compliance. The report shall include, at a minimum:

Compliance Monitoring Reporting

- a) A summary of the volume of the discharge, the location it has been discharged to, and details of any discharge to surface water that was not on a High Tide Discharge.
- b) A summary of the results of groundwater quality monitoring from the irrigation area.
- c) The results of any assessment of effects of the irrigation discharge, if one is undertaken in accordance with Condition 12 of the discharge to land permit, and a summary of the progress against any actions identified.

- d) A summary of the results of the discharge sampling undertaken at the site.
- e) An assessment of the discharge monitoring results against the relevant water quality parameters for the site, and a summary of any exceedances of these parameters.
- f) A record of any known non-compliance with conditions of this consent and the actions taken to remedy this non-compliance.
- g) An update on implementation of the Source Control Management Plan action schedule.
- h) A register of complaints relating to the authorised discharge made during the report period, and a record of how complaints were addressed.
- i) A progress summary of the implementation the Cultural Values Reports recommendations (see Schedule 1) and any other relevant matters arising from the Awapuni Reference Komiti.
- j) A summary of actions undertaken as part of the HARP over the previous 12 months.

Adaptive Management Plan Reporting

- k) The reporting shall include the following information on the Adaptive Management process:
 - i. A progress summary of the stormwater improvements that have been implemented at the site over the reporting period confirming adherence with the timetable established in the *Ravensdown Napier Works: Water Discharge Adaptive Management Plan, September 2022*.
 - ii. If following the completion of Stage 2 stormwater system improvements and after an initial three month monitoring period, any water quality parameters set in this Appendix are exceeded, the consent holder shall commission a suitably qualified expert to undertake a Comprehensive Review of the options available to resolve the remaining parameter exceedances. A report prepared to document this Comprehensive Review shall be provided to the Consents Manager HBRC within six months after the completion of the stage 2 stormwater system improvements, and shall include:
 - i. the options assessed;
 - ii. a best practicable options analysis prepared using methodology in Section 2 of the RMA;
 - iii. the reasons for the water quality improvement selected to resolve the issue;
 - iv. the proposed timeframes for implementing any water quality improvements selected, and the reasons for this timeframe.
 - iii. The consent authority shall consider the Comprehensive Review Report and certify that the recommended additional treatment proposed is fit for purpose to resolve the remaining parameter exceedances in an appropriate timeframe.

Mana Whenua Recognition and Participation

- 19. Within three months of the commencement of these consents the consent holder shall seek nominations to establish an Awapuni Reference Komiti to assist the consent holder to undertake the functions set out in condition 23.
- 20. The consent holder will invite mana whenua hapū (Ngāti Pārau, Ngāti Hori, Ngāti Hinemoa, Ngāti Hawea) in consultation with the following organisations to nominate six representatives for the Awapuni Reference Komiti:
 - a) Ngāti Pārau Hapū Trust;
 - b) Kohupatiki Marae;

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- c) Te Taiwhenua o Heretaunga;
- d) Te Taiwhenua o Te Whanganui Ā Orotu.

Advice Note:

For the avoidance of doubt the Awapuni Reference Komiti is not intended to have any representative function for marae and hapū affiliated to these organisations listed above, other than in relation to the exercise of these consents.

21. When calling for nominations from the organisations listed in Condition 20 a) to d) above, the consent holder shall provide a draft Terms of Reference for the Awapuni Reference Komiti outlining the proposed administration, meeting periods, komiti membership term and funding for the group, and reflecting that reflects the objectives, functions and responsibilities outlined in Condition 23 below. The consent holder shall forward a draft version of the Terms of Reference to the nominated Awapuni Reference Komiti members for consideration with a request to provide feedback within two calendar months. The Terms of Reference will provide for the following matters outlined in a) to i) below, as a minimum:
 - a) Administration support.
 - b) Proceedings and schedule of meetings.
 - c) The term and succession of Komiti members.
 - d) Appointment of Komiti chair.
 - e) Duties and functions of Komiti members.
 - f) A flexibility mechanism to enable any future iwi and hapū management structures.
 - g) Manaakitanga.
 - h) Provision for mātauranga Māori through mauri monitoring throughout the term of the consent.
 - i) The role of Kaihāpai Taiao, including working with the consent holder and providing counsel to integrate mātauranga Māori in the delivery of the adaptive management process and associated monitoring, alongside other ongoing kaitiakitanga matters throughout the term of the Resource Consents.
22. The consent holder shall convene the first meeting of members nominated for the Awapuni Reference Komiti within three months following the call for nominations with the purpose of ratifying the Terms of Reference. A copy of the final Terms of Reference shall be supplied to the Council (Manager Compliance).
23. The objectives, functions and responsibilities of the Awapuni Reference Komiti shall be to assist the consent holder as follows.
 - a) To develop effective measures that recognise and implement the recommendations contained within the *Cultural Values reports; Whataangaanga and Surrounds; Cultural Values, Names and Associations, November 2021 and Ravensdown Napier Resource Consent Renewal Cultural Impact Assessment, Ngāti Parau Hāpu, November 2021* (see Schedule 1).
 - b) To facilitate information flow between the consent holder and mana whenua hapū regarding the activities associated with these consents at a Komiti meeting to be held October each year. The mechanisms for this information flow will be
 - i. To receive a presentation on the content of the annual reports (prepared in draft form) set out in General Condition 18 prior to their finalisation and submission to the Council by 30 November each year; and
 - ii. To identify any issues of concern that may arise during the activities associated with these consents in order to discuss and recommend any appropriate additional measures outside of the consent conditions which may need to be considered by the consent holder to address any issues raised in relation to impacts on mauri.

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- c) To assist consent holder in recruiting a suitably qualified and experienced Kaihāpai Taiao to work as part of the consents holders team exercising the consents, including to support the reporting to the Awapuni Reference Komiti and implementing the works associated with the Adaptive Management Plan Process (Condition 2), Habitat Abundance Restoration Project (Condition 14) and Whataangaanga Cultural Heritage Project (Condition 24).
24. Within three months of the commencement of these consents the consent holder shall commission the preparation of a “Whataangaanga Cultural Heritage Project Plan” by a suitably qualified and experienced expert, engaged with the assistance of the Awapuni Reference Komiti, as a means of delivering Recommendation 1.3 of the report “Whataangaanga and Surrounds; Cultural Values, Names and Associations, November 2021” (see Schedule 1 of these conditions). The consent holder shall finalise the Whataangaanga Cultural Heritage Project Plan within two years of the commencement of these consent and will provide a copy to the Council (Manager Compliance).

Review

25. The conditions of this consent may be reviewed by Council during the month of May of any year pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The consent(s) may be reviewed for any of the following purposes:
- a) To deal with any adverse effect on the environment which may arise from the exercise of the consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
 - b) To require that the discharge is consistent with requirements in a regional plan or a National Environmental Standard;
 - c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate, inaccurate or inadequate;
 - d) In the event that the Stage 1 and 2 treatment works set out in the *Ravensdown Napier Works: Water Discharge Adaptive Management Plan, September 2022* do not result in compliance with all of the water discharge conditions set out in this Appendix following the monitoring check undertaken in Year 6 of the adaptive management period or after the Comprehensive Review process set out in General Condition 18 (k) above.

Administration

Notification of Changes to Details

26. It is the responsibility of the consent holder to inform the Council (Manager Consents) if any details regarding this consent , including any sale / purchase of the property and any change to contact details.

Routine Monitoring

27. Routine monitoring inspections will be undertaken by Council officers at a frequency of no more than once every year to check compliance with the conditions of the consent. The costs of any routine monitoring will be charged to the consent holder in accordance with the Council’s Annual Plan of the time.

Non-routine Monitoring

28. “Non routine” monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA, which states:

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Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

- a) any of sections 10, 10A, 10B, and 20A; or*
- b) a national environmental standard, a rule, a resource consent, or a designation.*

Consent Impact Monitoring

29. In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council will levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Council's Annual Plan process.

Debt Recovery

30. It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

Schedule 1: Recommendations - Cultural Values Reports

Whataangaanga and Surrounds; Cultural Values, Names and Associations, November 2021

1. That Ravensdown invest in Rangatiratanga - Leadership through a long-term relationship with mana whenua to achieve all cultural outcomes over the long term¹. This relationship includes:
 - 1.1 The proposed habitat abundance restoration project as stage one:- is just stage one of a bigger project; and
 - 1.2 That the partnership brings in other industry operating at Whataangaanga for ongoing enhancement staged projects: Mana, Mauri Tu; Taiao.
 - 1.3 A second concurrent project runs in conjunction with the restoration project; Names and associations is project two that researches the names and associations used through time, for the area of the estuary, and interprets the findings consistent with the cultural outcomes of Whakapapa; Ahi kaa; Mahi Toi; Tohu.

and
2. That Ravensdown, in acknowledgement of the waka culture of the early inhabitants of the area; and of the positive social impact associated with waka today, invests in restoring the culture of waka on the rivers. Manaakitanga - fostering potential.

and
3. That Ravensdown, in partnership with Mana whenua; establish a Whakatipu Kaitiaki policy to provide scholarships and internships specifically targeting rangatahi Māori, actively investing in mana whenua capacity and capability to engage with the environmental and other issues related to the Ravensdown operations.

Ravensdown Napier Resource Consent Renewal Cultural Impact Assessment, Ngāti Pārau Hapū, November 2021

1. Ngāti Pārau hapū supports the proposed site for disposal of stormwater and process water through irrigation across 17.5 ha of farmland.
2. Ngāti Pārau hapū are committed to working with Ravensdown to ensure a healthy estuarine environment for the Waitangi Estuary and wetlands area. Ngāti Pārau insists that they be kept appraised of, and included in the Habitat Abundance Restoration and ongoing monitoring.
3. That Ravensdown invest in future Mana Whenua Kaitiaki (environmentalists), through an ongoing and active partnership with Mana Whenua to achieve the environmental and cultural aspirations of Mana Whenua, Ravensdown and that of the community.

¹ Long-term in this context begins with the duration of the resource consent i.e. 35 years

HBRC CONSENT - WATERTAKE

Activity Description To take water from well numbers 15986 and 15989 (150 mm diameters) for the following industrial uses and environmental purposes:

- The manufacture of sulphuric acid and fertilisers;
- The treatment of stormwater and process water including sustaining constructed treatment wetlands and the maintenance of crop cover on the discharge to land area (shown on Plan B); and
- Sustain an artificial wetland within the Waitangi Regional Park.

Consent Duration 35 years from the date of commencement of this consent.

CONDITIONS

1. The activities authorised by this consent shall be undertaken generally in accordance with the Assessment of Environmental Effects dated 30 November 2021 and associated management plans and other information supplied as part of the application for this resource consent. If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.
2. The combined rate of taking from all wells shall not exceed 80 litres per second.
3. The combined volume taken, shall not exceed the following:
 - a) 13,477 cubic metres in any 7 day period; and,
 - b) 666,455 cubic metres within the 12 month period, 1 July to 30 June in consecutive calendar years;

The maximum 7-day and 12 month period volumes for each of the uses is set out in the table below:

Site Water Use	Proposed Volume	
	Weekly (m ³)	Annual (m ³)
Site base load ¹	2,820	
Manufacture of sulphuric acid and fertilisers	7,945	
Sustaining treatment wetland	175	
Maintaining crop cover on irrigation area	1,900	
Subtotal for Operations	12,840	633,240²
Sustaining HARP wetland	637 ³	33,215
Total	13,477	666,455

¹ Site Base Load is domestic usage and site wash water.

² Assuming 48 weeks per year of manufacturing.

³ Using an evapotranspiration rate of 0.7 L/s/Ha and a water surface area of 1.5Ha

4. Water meter shall be installed to monitor the volumes associated with each use outlined in the Table in condition 3 above (excepting the site base load), prior to the exercise of this consent,

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and shall be operated and maintained to measure the volume of water taken to an accuracy of +/- 5%.

5. The device(s) required by condition 4 shall be installed and maintained in accordance with the Council's "Technical Specifications and Installation Requirements for Flow Meters" (February 2010) (see Advice Note I).
6. Water take and use data supplied to the Council in accordance with the conditions of this consent shall be collected by a water measuring device or system that has been verified by a suitably qualified person to be accurate to within +/-5% at that point of take within the following time periods:
 - a) For existing devices or systems: within the previous 5 water years (water year is 1 July – 30 June); or,
 - b) For new devices or systems: before the end of the first water year (ending 30 June) for that water permit.
7. All water measuring devices or systems shall be re-verified by a suitably qualified person as accurate to within +/-5% within a maximum of 5 years from the date of the previous verification.
8. From commencement of this consent, the consent holder shall read the water meter at 7-day intervals and shall provide the Council with a record of the following
 - a) the meter reading (in cubic metres); and,
 - b) the date and time of each reading; and,
 - c) the point of take that the record relates to; and,

These records shall be provided to the Council no later than 7 days after the end of each calendar month (see Advice Note II).

9. The consent holder shall, upon request by the Council (Manager Compliance), supply details of the use of water occurring under this consent, including (but not limited to) a full description of all processes that the water is used in, a description of the products that are produced on the site, and confirmation that condition 15 is complied with.
10. All works and structures relating to this resource consent shall be designed and constructed to conform to best engineering practices and at all times maintained to a safe and serviceable standard.
11. The consent holder shall undertake all operations in accordance with any drawings, specifications, statements of intent and other information supplied as part of the application for this resource consent. In the event that there is conflict between the information supplied with the application and any consent condition(s), the condition(s) shall prevail.
12. The consent holder shall ensure that a backflow prevention device is installed and maintained to prevent contaminants from entering the aquifer through the bores. The consent holder shall provide the details and specifications of the back flow prevention devices/systems to Council (Manager Compliance) prior to the exercising of this consent. The device shall be installed, maintained and tested in accordance with the manufacturer's specifications. Records of testing and maintenance shall be kept and provided to the Council (Manager Compliance) upon request.
13. If an event occurs on-site that may lead to contaminants entering groundwater, the Consent Holder shall notify the Napier City Council and the Council (Manager Compliance) of the event as soon as reasonably practicable after the event occurs.

Advice Note:

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Such an event might include for example chemical spillage or backflow/loss of chemicals to the well. Napier City Council can be contacted on 835 7579. The Regional Council 24 hour Pollution Hotline should also be contacted on 0800 108 838.

14. To minimise the risk of contaminants entering groundwater, the consent holder shall:
- a) Ensure that well headworks are constructed and maintained to prevent any leakage and/or movement of water or contaminants between the ground surface and groundwater, and shall ensure that there are no openings through which contaminants might enter the well. This shall include (but not be limited to) ensuring that there are no gaps around any pipework and/or cables at the wellhead.
 - b) Ensure that the well is maintained and serviced by a suitably qualified and experienced person at a frequency suitable for ensuring that condition 14(a) is met, and provide records of this maintenance and servicing to the Council (Manager Compliance) upon request.
 - c) In the absence of sufficient records to demonstrate to the satisfaction of the Council (Manager Compliance) that condition 14(a) is met, the consent holder, upon request by the Council (Manager Compliance), shall engage at their cost a suitably qualified and experienced person to inspect and certify that the wells(s) meet the requirements of condition 14(a). The certification shall be provided to the Council (Manager Compliance) within 7 days of its receipt.

Advice note:

For the purposes of this condition, an acceptable “suitably qualified and experienced person” is a professional well driller or well engineer (or equivalent), with demonstrable experience in the field of wellhead security, design, construction and maintenance.

15. Water may not be used under this consent for commercial ‘water bottling’, where water bottling is defined as the: “taking and using water for bottling in bottles, bladders or other containers for human consumption where bore water makes up at least 90% of the content of the container”.
16. The Council may review conditions of this consent pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The consent(s) may be reviewed for any of the following purposes:
- a) To deal with any adverse effect on the environment which may arise from the exercise of this consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
 - b) To require that the installation and reading of the water-measuring device or water meter data reporting system is consistent with any policies or rules in a regional plan, a National Environmental Standard;
 - c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate, inaccurate or inadequate;
 - d) To ensure that the rate and volume of water authorised by the consent is consistent with actual water needs for an efficient take for the consented purpose and is physically able to be taken;
 - e) To require, if necessary, the installation of a backflow prevention device to ensure that no contaminant can enter the aquifer through the bore;
 - f) To modify and/or add conditions of consent in order to ensure that it is consistent with the operative provisions of a regional plan. This shall include (but not be limited to) conditions specifying any maximum or minimum levels, minimum flows and associated implementation timeframes, and/or abstraction rates or volumes (including allocation limits).

Advice Notes

Water Meter Technical Specifications

- I. The following documents are available from the Council's website "Technical Specifications and Installation Requirements for Flow Meters" (February 2010) (www.hbrc.govt.nz/services/water/water-metering/meters/) and "HBRCs Requirements for the use of Portable pumps used to report water use" (February 2013) (www.hbrc.govt.nz/assets/Document-Library/Technical-Publications/Technical-Specifications-and-Installation-Requirements-for-portable-pumps-March-2013.pdf). The Telemetry System Installation Form is provided to telemetry installers by the Council upon request.

Administration

Notification of Changes to Details

- II. It is the responsibility of the consent holder to inform the Council (Manager Consents) if any details regarding this consent, including any sale / purchase of the property and any change to contact details.

Routine Monitoring

- III. Routine monitoring inspections will be undertaken by Council officers at a frequency of no more than once every year to check compliance with the conditions of the consent. The costs of any routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Non-routine Monitoring

- IV. "Non routine" monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA, which states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

a) any of sections 10, 10A, 10B, and 20A; or

b) a national environmental standard, a rule, a resource consent, or a designation.

Consent Impact Monitoring

- V. In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council will levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Council's Annual Plan process.

Debt Recovery

- VI. It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

HBRC CONSENT – WATERTAKE – CONSTRUCTION DEWATERING

Activity Description To take groundwater by dewatering associated with the construction of new stormwater and process water treatment facilities.

Consent Duration 10 years from the date of commencement of this consent.

CONDITIONS

1. The activities authorised by this consent shall be undertaken generally in accordance with the Assessment of Environmental Effects dated 30 November 2021 and associated management plans and other information supplied as part of the application for this resource consent. If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.
2. Prior to the take of groundwater for dewatering the consent holder shall prepare a Construction Environmental Management Plan (CEMP) with the objective of ensuring the take of dewatering water shall be managed to minimise environmental effects. The dewatering section of the CEMP shall be prepared by a person who is suitably qualified and experienced in managing groundwater takes.
3. The dewatering section of the CEMP shall:
 - a) Set out how the take of groundwater for dewatering shall be undertaken to minimise environmental effects;
 - b) Set out the measures that will be implemented so that the take of groundwater for dewatering does not cause subsidence or damage to any structures on adjacent properties;
 - c) Set out how the take of groundwater for dewatering shall be undertaken so that it does not reduce the water available in any nearby bore;
 - d) Set out how the dewatering shall be undertaken so that the rate of dewatering is as low as reasonably practicable.

Advice Note:

It is expected that one CEMP will be prepared which will cover the requirements of all construction phase activities for this project, including take and discharge of dewatering water and excavations.

4. The CEMP shall contain the following information regarding the dewatering take:
 - a) The anticipated rate of dewatering;
 - b) Details of the method that will be used to take groundwater;
 - c) Methods that will be used to avoid environmental effects during the dewatering;
 - d) Procedures for observing and monitoring the take, including the frequency of monitoring, location of monitoring, method of monitoring, and who will be responsible for the monitoring;
 - e) Details of reporting that will be undertaken in accordance with this consent.
5. The dewatering sections of the CEMP shall be provided to the Council at least 20 working days prior to the dewatering discharge commencing, for certification they meet the objective set in Condition 2 and cover the matters set out in Conditions 3 and 4. The take of groundwater for dewatering shall not commence until certification of the dewatering sections of the CEMP has

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been received from Council. Notwithstanding this, if 20 working days have passed and no correspondence has been received from the Council regarding the adequacy of the CEMP, the take of groundwater for dewatering may commence.

6. Groundwater take for dewatering shall be undertaken in accordance with the dewatering sections of the CEMP.
7. If an event occurs on-site that may lead to contamination of groundwater, the consent holder shall notify Council (Manager Compliance) of the event as soon as reasonably practicable after the event occurs.

Advice Note:

The Regional Council's 24 hour Pollution Hotline should also be contacted on 0800 108 838.

8. All works and structures relating to this resource consent shall be designed and constructed to conform to best engineering practices and at all times maintained to a serviceable standard.
9. The conditions of this consent may be reviewed by the Council during the month of May of any year pursuant to sections 128 to 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The conditions may be reviewed for any of the following purposes:
 - a) To deal with any adverse effect on the environment which may arise from the exercise of this consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
 - b) To require that the installation and reading of the water-measuring device or water meter data reporting system is consistent with any policies or rules in a regional plan, a National Environmental Standard;
 - c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate, inaccurate or inadequate;
 - d) To ensure that the rate and volume of water authorised by the consent is consistent with actual water needs for an efficient take for the consented purpose and is physically able to be taken;
 - e) To require, if necessary, the installation of a backflow prevention device to ensure that no contaminant can enter the aquifer through the bore;
 - f) To modify and/or add conditions of consent in order to ensure that it is consistent with the operative provisions of a regional plan. This shall include (but not be limited to) conditions specifying any maximum or minimum levels, minimum flows and associated implementation timeframes, and/or abstraction rates or volumes (including allocation limits).

Administration

Notification of Changes to Details

10. It is the responsibility of the consent holder to inform the Council (Manager Consents) if any details regarding this consent, including any sale / purchase of the property and any change to contact details.

Routine Monitoring

11. Routine monitoring inspections will be undertaken by Council officers at a frequency of no more than once every year to check compliance with the conditions of the consent. The costs of any routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Non-routine Monitoring

12. “Non routine” monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA, which states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

a) any of sections 10, 10A, 10B, and 20A; or

b) a national environmental standard, a rule, a resource consent, or a designation.

Consent Impact Monitoring

13. In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council will levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Council’s Annual Plan process.

Debt Recovery

14. It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

HBRC CONSENT – DISCHARGE TO LAND AND WATER – CONSTRUCTION DEWATERING

Activity Description To discharge dewatering water associated with the construction of new stormwater and process water treatment facilities onto or into land (settling pond) and into water (Waitangi Estuary) in the Coastal Margin.

Consent Duration 10 years from the commencement date of this consent.

CONDITIONS

1. The activities authorised by this consent shall be undertaken generally in accordance with the Assessment of Environmental Effects dated 30 November 2021 and associated management plans and other information supplied as part of the application for this resource consent. If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.
2. Prior to the discharge of water from dewatering the consent holder shall prepare a Construction Environmental Management Plan (CEMP) with the objective of ensuring the take of dewatering water shall be managed to minimise environmental effects. The dewatering discharge section of the CEMP shall be prepared by a person who is suitably qualified and experienced in managing discharges to the receiving environment
3. The CEMP shall contain the following information regarding dewatering:
 - a) Procedures for assessing the quality of the dewatering water to determine its quality prior to discharge. These shall be prepared in accordance with advice from a suitably qualified and experienced contaminated land practitioner;
 - b) Water quality limits for discharges of dewatering water to the receiving environment, based on advice from a suitably qualified and experienced surface water quality scientist or ecologist;
 - c) Procedures for treating or managing the dewatering water, if necessary to meet the water quality limits for the environment;
 - d) Procedures for observing and monitoring the discharge, including the frequency of monitoring, location of monitoring, method of monitoring, and who will be responsible for the monitoring;
 - e) Details of actions that will be undertaken in the event that the monitoring of the discharge indicates that the water quality limits are not being met;
 - f) Details of reporting that will be undertaken in accordance with this consent.

Advice note:

It is expected that one CEMP will be prepared which will cover the requirements of all construction phase activities for this project, including take and discharge of dewatering water and excavations.

4. The dewatering sections of the CEMP shall be provided to the Council at least 20 working days prior to the dewatering discharge commencing, for certification that they meet the objective set in Condition 2 and cover the matters set out in Condition 3 above. Dewatering discharge shall not commence until certification of the dewatering sections of the CEMP has been received Council. Notwithstanding this, if 20 working days have passed and no correspondence has been received from the Council regarding the adequacy of the CEMP, the discharge may commence.

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5. Dewatering discharge shall be undertaken in accordance with the dewatering sections of the CEMP.
6. The dewatering discharge shall not cause erosion or scour of the receiving environment.
7. The dewatering discharge shall not cause or exacerbate flooding in the receiving environment.
8. The discharge shall not contain more than 100 milligrams per litre of total suspended solids.
9. The reporting required under the CEMP shall be provided to the Council on request.
10. The conditions of this consent may be reviewed by Council during the month of May of any year pursuant to sections 128 to 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The conditions may be reviewed for any of the following purposes:
 - a) To deal with any adverse effect on the environment which may arise from the exercise of the consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
 - b) To require that the discharge is consistent with requirements in a regional plan or a National Environmental Standard;
 - c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate, inaccurate or inadequate;
 - d) To modify and/or add conditions of consent in order to ensure that it is consistent with the operative provisions of a regional plan. This shall include (but not be limited to) conditions specifying any maximum or minimum levels, minimum flows and associated implementation timeframes, and/or abstraction rates or volumes (including allocation limits).

Administration

Notification of Changes to Details

11. It is the responsibility of the consent holder to inform the Council (Manager Consents) if any details regarding this consent, including any sale / purchase of the property and any change to contact details.

Routine Monitoring

12. Routine monitoring inspections will be undertaken by Council officers at a frequency of no more than once every year to check compliance with the conditions of the consent. The costs of any routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Non-routine Monitoring

13. "Non routine" monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA, which states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

a) any of sections 10, 10A, 10B, and 20A; or

b) a national environmental standard, a rule, a resource consent, or a designation.

Consent Impact Monitoring

14. In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council will levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Council's Annual Plan process.

Debt Recovery

15. It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

HBRC CONSENT –LANDUSE- CONSTRUCTION, EARTHWORKS AND VEGETATION CLEARANCE

Activity Description Vegetation clearance and soil disturbance activities in the Coastal Margin associated with:

- Erection, reconstruction, placement, alteration, extension, removal, or demolition of stormwater and process water treatment and discharge structures; and
- Wetland restoration activities

Consent Duration 10 years from the commencement date of this consent.

CONDITIONS

1. The activities authorised by this consent shall be undertaken generally in accordance with the Assessment of Environmental Effects dated 30 November 2021 and associated management plans and other information supplied as part of the application for this resource consent. If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail. Where a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.
2. The planting and associated works authorised by this consent shall be undertaken in the area and for the purposes described in *Ravensdown Napier Works, Habitat Abundance and Restoration Plan, September 2022*.
3. Within six months from the commencement date of this consent, the consent holder shall reconvene the HARP Advisory Group made up of Mana Whenua, HBRC (landowner) representatives and other interest stakeholders.
4. The consent holder shall ensure that any contractors engaged to undertake work authorised by this consent abide by the conditions of this consent. The person responsible for the work on site shall be familiar with the consent conditions and a copy of this consent shall be present on site at all times while the work is being undertaken.
5. All practicable measures shall be implemented to minimise sediment discharges into waterbodies.
6. All disturbed areas shall be stabilised as soon as practicable following completion of the works.
7. The earthworks and vegetation clearance shall occur in accordance with an Erosion and Sediment Control Plan (ESCP). The objective of the ESCP shall be to detail the best practicable erosion and sediment control measures that will be taken to ensure compliance with this resource consent. The Plan shall be prepared as far as practicable to be in accordance with the Hawke's Bay Water Guidelines: Erosion and Sediment Control (2009).

Advice Note:

The requirement for a ESCP for these works is also contained in the associated Napier City Council resource consent and only one Plan is required for certification by both Councils).

8. The ESCP shall be provided to the Council at least 20 working days prior to the earthworks and/or vegetation removal commencing, for certification that it meets the objective set out in Condition 7 and is prepared as far as practicable to be in accordance with the Hawke's Bay Water Guidelines: Erosion and Sediment Control (2009).

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Prepared for Pre-Hearing Meeting #2 in response to s92 conditions questions, expert conferencing, and some submitter points where agreed by consent holder.

9. Earthworks and vegetation clearance shall not commence until certification of the ESCP has been received from Council. Notwithstanding this, if 10 working days have passed and no correspondence has been received from the Council regarding the adequacy of the ESCP, the works may commence.
10. The ESCP may be amended at any time. Any amendments shall be:
 - a) Only for the purpose of improving the efficiency of the erosion and sediment control measures or the management of contaminated soil and shall not result in reduced efficacy of the management;
 - b) Consistent with the conditions of this resource consent; and
 - c) Submitted in writing to the Council, prior to any amendment being implemented.
11. The consent holder shall check, clean and dry machinery used in the bed of the waterbody or drain to limit the spread of aquatic and plant pests.
12. Where, for any cause (accidental or otherwise), contaminants associated with the consent holder's operations escape to water other than in conformity with the consent, the consent holder shall:
 - a) Immediately stop all works authorised by this resource consent; and,
 - b) Immediately take all practicable steps to contain and then remove the contamination from the environment,
 - c) Immediately notify the Council of the escape; and,
 - d) Report to the Council, in writing and within 7 days, describing the manner and cause of the escape and the steps taken to control it and prevent its reoccurrence.
13. In the event of any archaeological site or waahi tapu being uncovered during the exercise of this consent, activities in the vicinity of the discovery shall cease. The consent holder shall contact the Council (Manager Compliance) to obtain contact details of the relevant tangata whenua. The consent holder shall then consult with the relevant local hapū or marae and the Heritage New Zealand Pouhere Taonga, and shall not recommence works in the area of the discovery until the relevant Heritage New Zealand Pouhere Taonga and tangata whenua approvals to damage, destroy or modify such sites have been obtained.
14. The conditions of this consent may be reviewed by Council during the month of May of any year pursuant to sections 128 to 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The conditions may be reviewed for any of the following purposes:
 - a) To deal with any adverse effect on the environment which may arise from the exercise of the consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
 - b) To require that the discharge is consistent with requirements in a regional plan or a National Environmental Standard;
 - c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate, inaccurate or inadequate;
 - d) To modify and/or add conditions of consent in order to ensure that it is consistent with the operative provisions of a regional plan.

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Prepared for Pre-Hearing Meeting #2 in response to s92 conditions questions, expert
conferencing, and some submitter points where agreed by consent holder.*

Hawke's Bay Regional Council Resource Consent Plans

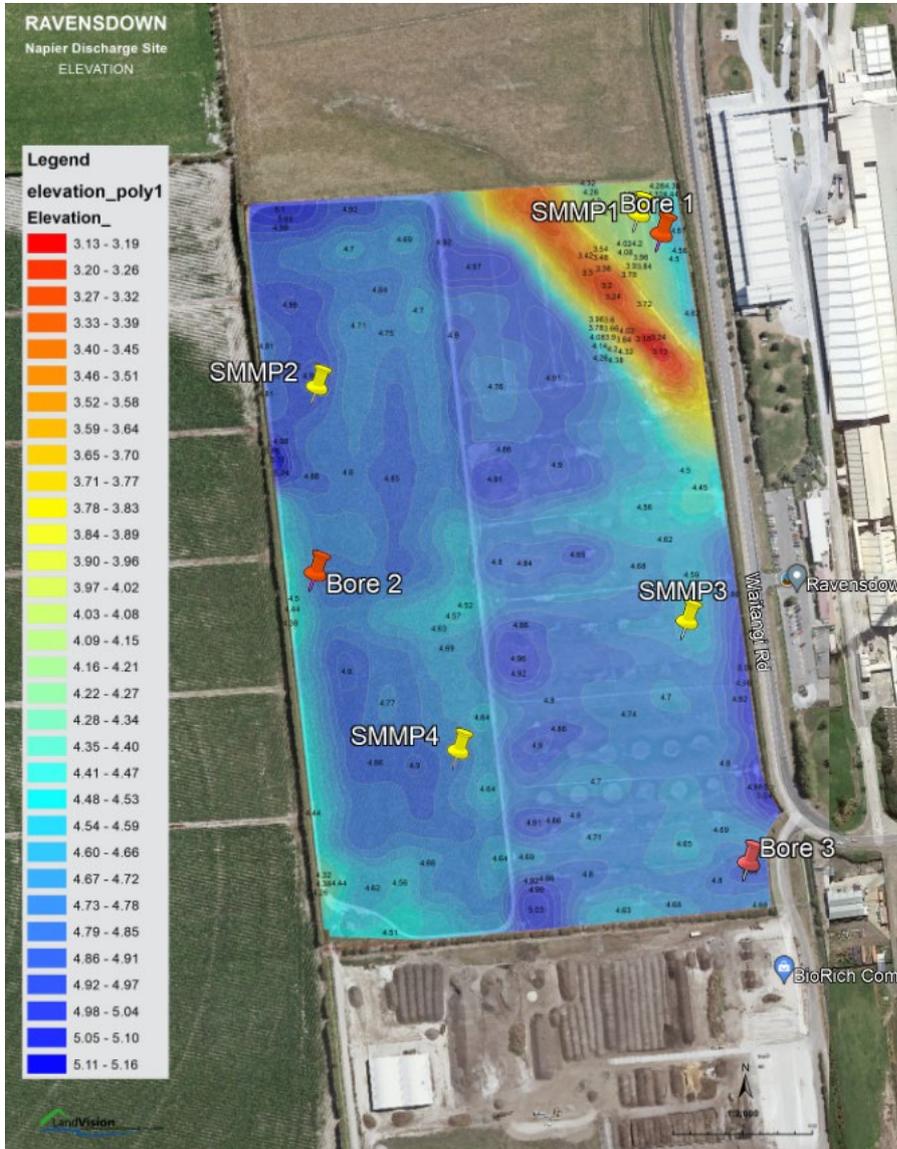
Ravensdown Ltd, Napier Works Sustainable Site Project - Proposed Conditions, September 2022
Prepared for Pre-Hearing Meeting #2 in response to s92 conditions questions, expert conferencing, and some submitter points where agreed by consent holder.

Plan A – Ambient air monitoring locations

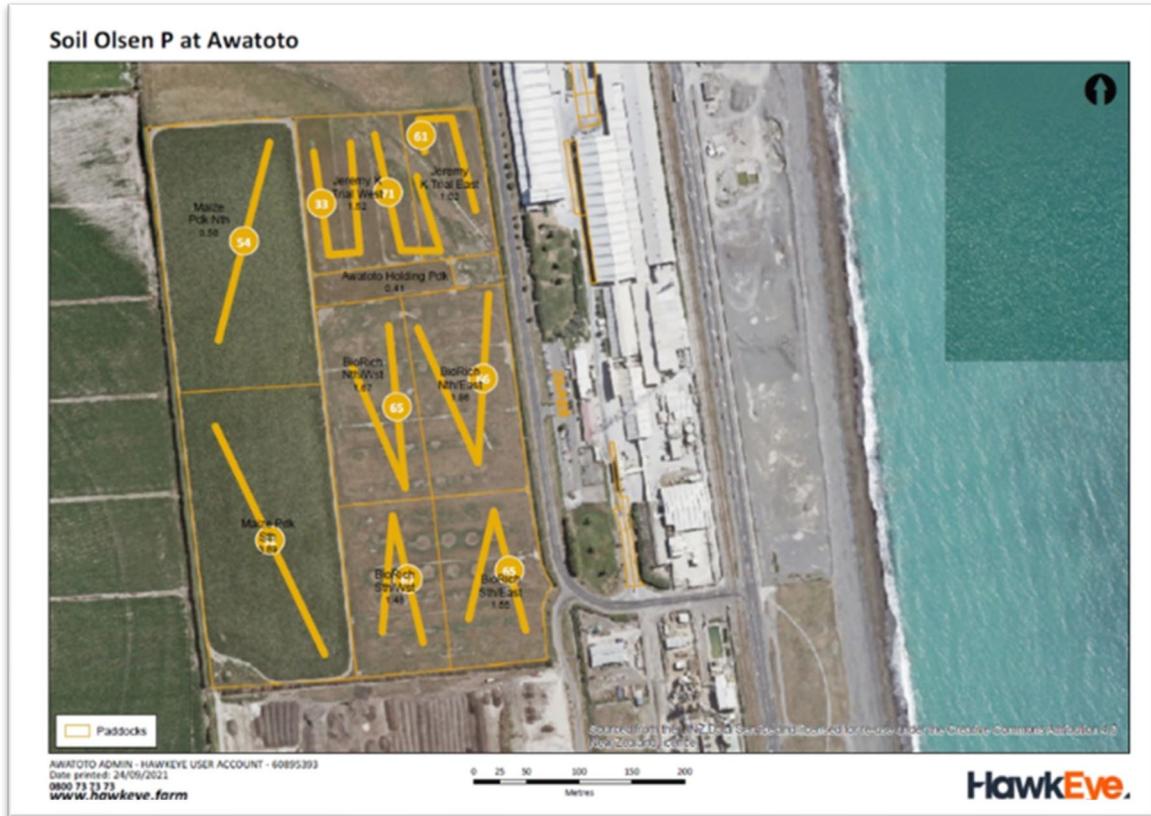


Ravensdown Ltd, Napier Works Sustainable Site Project - Proposed Conditions, September 2022
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Plan B – Land Discharge area, Soil Moisture Monitoring and Groundwater Monitoring Bore Locations



Plan C – Land Discharge Soil Sampling Locations



Plan D – Plan Showing Water Discharge point, Ravensdown Drain and HARP Area





ATTACHMENT 4

Source Control Management Plan -
September 2022 version

Ravensdown Napier Works

Source Control Management Plan

Author: Andrew Torrens / Helen Caley

Date: ~~September~~ ~~November~~ 2022¹

Document Information

DOCUMENT ID	
DOCUMENT OWNER	Helen McCarthy – Napier Consents Manager
ISSUE DATE	23 November 2021 <u>19 September 2022</u>

Document History

VERSION	STATUS	ISSUE DATE	AUTHOR	CHANGES
V1.0	Draft for review	1 October 2021	Andrew Torrens - Ravensdown Helen Caley – Aurecon Richard Chilton – Tonkin+Taylor	
V1.1	Approved for consent application	23 November 2021	Andrew Torrens - Ravensdown Helen Caley – Aurecon Richard Chilton – Tonkin+Taylor	
<u>V1.2</u>			<u>Andrew Torrens - Ravensdown</u>	<u>Remove Section 7 – Review to reflect proposed consent conditions (Sept 2022 version).</u>

Document Review

ROLE	NAME	VERSION
Partner – Mitchell Daysh Ltd.	Stephen Daysh	V1.1

Document Sign-off

ROLE	NAME	SIGNATURE	DATE
Works Manager	Andrew Torrens		<u>23/11/2021</u>

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1. Purpose

This Source Control Management Plan (**SCMP**) has been prepared as part of the November 2021 Ravensdown Napier Works resource consent applications and covers the following matters:

- A background discussion.
- Management Plan objectives.
- Identification of opportunities for better source control, as recommended by independent assessments of the site.
- A monitoring and reporting process.
- Prioritisation of the improvement.
- A schedule of actions to be implemented, along with a timetable of works.

2. Background

The Napier Works Sustainable Site Project (**NWSSP**) embraces a step change on site in the management and treatment of discharges. This step change is reflective of:

- The strong desire for Ravensdown to be outward looking, responsive and respectful towards both its Napier neighbours and wider stakeholders by championing excellence in environmental performance and compliance.
- The location of the Site adjacent to the significant Waitangi Estuary area, and on a main arterial route between Napier and Hastings.
- The new requirements for water quality set out in national and regional planning documents.

Water treatment will consist of a multi-step treatment train, which will be installed in a phased approach as outlined in detail in the *Water Discharge Strategy - Ravensdown (November 2021a)* and *Adaptive Management Plan -Ravensdown (November 2021d)*.

In October of 2009, Hawkes Bay Regional Council (HBRC) gazetted the Awatoto airshed as Polluted. Both Ravensdown and HBRC conduct regular air quality monitoring, including particulate monitoring, within the Awatoto region. As part of continual improvement, a best practice review has highlighted potential to improve concentrations of particulate, fluoride, and other airborne emissions from site and this is outlined in detail in the *Air Discharge Strategy – Ravensdown (November 2021b)*.

Source control methods are often the most cost-effective and efficient way of reducing contaminant entering the site stormwater and treatment system and fugitive emissions to air. Improved source control is a centrepiece of both Discharge Strategies.

3. Management Plan Objectives

The overall project objective for the NWSSP is:

“To establish the most sustainable long-term solution for treatment and discharges from the Ravensdown Napier Works to enable the continued operation of the site”

The specific objectives of the SCMP are:

- To eliminate if possible, or otherwise minimise contamination at its source prior to entering the stormwater collection and on-site treatment systems.
- To eliminate if possible, or otherwise minimise fugitive emissions to the local air shed environment.
- To formalise ownership and timeframes for the agreed improvement actions.

4. Identification of Opportunities for Improvement

In preparing to apply for the new resource consents, Ravensdown have commissioned the following reports from subject matter experts:

- Acid Plant Process Review – *Ivell (November 2021)*
- Manufacture Plant Process Review - *Heubsch (November 2021)*
- Stormwater Improvements Plan – *Delagarza (October 2021)*
- Air Discharge Dispersion Modelling and Air Quality Effects – *Chilton (November 2021)*

The information and recommendations contained in these reports have been considered in developing this SCMP.

Ravensdown have also engaged with their own site staff in order to get the best possible understanding of source points, and a practical view on solutions.

5. Prioritisation of Recommended Actions

Four aspects have been considered in prioritising the recommended improvements:

- The risk of contamination of stormwater, or fugitive airborne release.
- The resulting impact on water or air quality.
- The estimated cost of completion.
- The estimated time required for completion.

A granular high-medium-low rating has been applied to each action in order to assign a priority.

6. Monitoring and Reporting

Each year Ravensdown will undertake a review to determine whether the SCMP actions completed have affected environmental outcomes. The review will include:

- Measured concentrations of PM₁₀ and PM_{2.5}, fluoride, and sulphur dioxide at ambient air monitoring stations.
- Measured concentrations of contaminants in stormwater samples taken before and after treatment devices.
- Measured concentrations of contaminants in discharge water samples.

Ravensdown will prepare an annual report in line with the proposed consent conditions. This report will include a section summarising:

- Progress against the SCMP.
- Effectiveness of the actions completed.
- Changes or updates required to the SCMP.
- New actions to be added to the SCMP.

~~7. Review~~

~~This plan is a living document and should respond to changes on the site. It will be reviewed at least annually and updated as necessary to:~~

- ~~▪ Add new opportunities or actions that have been identified.~~
- ~~▪ Where necessary re-prioritise actions.~~
- ~~▪ Remove completed actions from the list.~~
- ~~▪ Update action owners or timeframes as required.~~

8.7. Site Improvement Action Schedule

AREA	DESCRIPTION	PRIORITY	ACTION OWNER	TIMING ¹	NOTES
Site wide	Ensure a 6 monthly Preventative Maintenance task is in place to identify cladding repairs required.	High	Andrew Torrens	6 months	
	Ensure a 3 monthly Preventative Maintenance task is in place for guttering and down pipe inspection and cleaning.	High	Andrew Torrens	6 months	
	Ensure a 3 monthly Preventative Maintenance task is in place for repairs to hardstand surfaces.	Medium	Andrew Torrens	1 year	
	Ensure routine Preventative Maintenance tasks are in place for inspection and cleaning of stormwater infrastructure.	High	Andrew Torrens	6 months	Reoccurrence timing and tasks required will be unique for different parts of the system.
	Ensure a thorough SOP is in place for routine sweeping of hardstand surfaces.	High	Andrew Torrens	6 months	
Acid Plant	Ensure an annual Preventative Maintenance task is in place for condition assessment of all acid plant gas ducts.	Medium	Grant Whitfield	1 year	To minimise fugitive release of SO ₂ and SO ₃ gases.
	Investigate opportunities for reduction, or better dispersion of, restart SO ₂ from the furnace.	High	Reuben Manson	1 year	
Intake	Install perimeter underdrains around Intake Structure	Low	Jonathan Love	5 years	
	Install physical barriers (doors) on building entry/exit	Medium	Ross Kettle	3 years	
	Install stormwater interceptor at Intake	Medium	Ross Kettle	4 years	
	Investigate addition of dust collection at conveyor drop points.	Medium	Ross Kettle	4 years	

¹ Time from consent grant.

AREA	DESCRIPTION	PRIORITY	ACTION OWNER	TIMING ¹	NOTES
Sulphur Store 1	Repair building envelope	Low	Jonathan Love	5 years	To be considered in context of the building replacement project.
Sulphur Store 2	Repair building envelope	Low	Jonathan Love	5 years	To be considered in context of Sulphur Store 1 replacement project, which will extend Sulphur Store 2.
	Install stormwater infrastructure east of Sulphur Store 2	Low	Grant Whitfield	5 years	This may also require regrading of the hardstand surfaces to allow surface drainage.
Rock Store 1	Repair building envelope	Medium	Jonathan Love	4 years	This includes covering the gap between the roof line and wall of the building.
	Install guttering and respective downpipes to stormwater infrastructure.	Medium	Ross Kettle	2 years	
	Install dust suppression curtains to bay doorways.	High	Ross Kettle	1 year	
Rock Store 2	Repair building envelope	Medium	Jonathan Love	4 years	This includes covering the gap between the roof line and wall of the building
	Install guttering and respective downpipes to stormwater infrastructure	Medium	Ross Kettle	2 years	
	Install dust suppression curtains to bay doorways.	High	Ross Kettle	1 year	
Rock Store 3	Repair building envelope	Medium	Jonathan Love		
	Install guttering and respective downpipes to stormwater infrastructure	Medium	Ross Kettle	2 years	
South Canopy	Repair building envelope	High	Jonathan Love	1 year	Multiple locations of water ingress at interface of Rock Store roofs.
	Cover existing catch pits inside structure	High	Helen McCarthy	1 year	
	Install physical barriers (doors) on building entry/exit	High	Ross Kettle	1 year	

AREA	DESCRIPTION	PRIORITY	ACTION OWNER	TIMING ¹	NOTES
	Install threshold drains at building entries/exits	High	Ross Kettle	1 year	Not required if canopy is extended between Manufacturing and Despatch 1. Include catchment of reticulating down pipe from manufacturing.
North Canopy	Install physical barriers (doors) on building entry/exit	Medium	Ross Kettle	3 years	
	Install threshold drains at building entry/exit	High	Ross Kettle	1 year	
	Reticulate downpipes to stormwater infrastructure	Medium	Ross Kettle	2 years	
Manufacturing	Install threshold drains at building entry	High	Grant Whitfield	1 year	
	Investigate opportunities for better capture of fluoride, or optimisation of scrubbing in the Manufacture hygiene scrubber process.	High	Reuben Manson	1 year	
	Install dust collection at conveyor drop points.	Medium	Grant Whitfield	3 years	
Between Despatch 1 and Manufacturing	Install Stormwater Interceptor	High	Helen McCarthy	1 year	Could consist of either a strip drain or v channel and catch pit. Includes reticulating down pipe from manufacturing.
	Extend canopy	High	Grant Whitfield	1 year	To be considered in context of the Scrubber replacement project, and timed appropriately.
Despatch 1	Install threshold drains at building entries/exits	High	Ross Kettle	1 year	Not required if canopy is extended between Manufacturing and Despatch 1.
	Install dust suppression curtains to bay doorways.	Low	Ross Kettle	5 years	

AREA	DESCRIPTION	PRIORITY	ACTION OWNER	TIMING ¹	NOTES
Despatch 2	Install dust suppression curtains around dressing plant.	Medium	Ross Kettle	3 years	
	Install guttering and respective downpipes to stormwater infrastructure	Medium	Ross Kettle	2 years	
	Install physical barriers (doors) on building entry/exit	Medium	Ross Kettle	3 years	
	Install threshold drains at building entry/exit	Medium	Ross Kettle	3 years	
	Regrade hardstand surface to reduce surface ponding	Medium	Ross Kettle	4 years	On site there was a large concrete structure blocking the water path to the concrete covered drain, alternatives to this should be considered to freely discharge to stormwater infrastructure
Flexi Shed	Repair building envelope	High	Jonathan Love	1 year	Missing wall panels and holes in roof. Reticulation of down pipes may be required to eliminate water ingress.
	Install physical barrier (door) on building entry/exit	Medium	Ross Kettle	3 years	
	Install threshold drains at building entry/exit	High	Ross Kettle	1 year	
	Reticulate downpipes to stormwater infrastructure	Medium	Ross Kettle	2 years	
Site exit	Install stormwater infrastructure North of Despatch 2	Medium	Ross Kettle	3 years	This may also require regrading of the hardstand surfaces to allow surface drainage
	Install wheel wash	Low	Ross Kettle	5 years	
	Repair damaged hardstand surfaces	Medium	Jonathan Love	2 years	This is a site wide requirement, with emphasis on highly trafficked areas especially the Site Exit.

AREA	DESCRIPTION	PRIORITY	ACTION OWNER	TIMING ¹	NOTES
	Install kerbs	Medium	Ross Kettle	4 years	Approximately 200 to 250m of kerbs required
Main Drain	Cover main drain east of Despatch 2	High	Helen McCarthy	1 year	Establish a sweepable surface to remove accumulation of dust from Despatch 2
Waitangi Road tunnel	Install perimeter underdrains around Waitangi Road tunnel	Low	Ross Kettle	5 years	
Office	Install kerb	Low	Ross Kettle	5 years	Approximately 5 to 10m of kerb required




5

ATTACHMENT 5

Water Discharge Adaptive
Management Plan - September 2022
version

Ravensdown Napier Works

Water Discharge Adaptive Management Plan

Author: Andrew Torrens

Date: ~~September~~ ~~November~~ 2022¹

Document Information

DOCUMENT ID	
DOCUMENT OWNER	Helen Hurring – Napier Consents Manager
ISSUE DATE	23 November 2021

Document History

VERSION	STATUS	ISSUE DATE	AUTHOR	CHANGES
V1.0	Draft for review	1 October 2021	Andrew Torrens - Ravensdown Helen Caley - Aurecon	
V1.1	Approved for consent application	27 November 2021	Andrew Torrens - Ravensdown Helen Caley - Aurecon	
<u>V1.2</u>			<u>Andrew Torrens - Ravensdown</u>	<u>Remove Section 6 – Review to reflect proposed consent conditions (Sept 2022 version).</u> <u>Other minor changes.</u>

Document Review

ROLE	NAME	VERSION
Partner – Mitchell Daysh Ltd.	Stephen Daysh	V1.1

Document Sign-off

ROLE	NAME	SIGNATURE	DATE
Works Manager	Andrew Torrens		27/11/2021

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- 4. Proposed Timelines.....4
- 5. Monitoring and Reporting.....5

1. Purpose

This Adaptive Management Plan (**AMP**) has been prepared as part of the November 2021 Ravensdown Napier Works resource consent applications and covers the following matters:

- A background discussion
- The process taken to determine discharge water quality conditions.
- The improvements proposed for the site water management and timeframes for completion.
- Monitoring to validate effectiveness of the improvements.

2. Background

The Napier Works Sustainable Site Project (**NWSSP**) embraces a step change on site in the management and treatment of discharges.. This step change is reflective of:

- The strong desire for Ravensdown to be outward looking, responsive and respectful towards both its Napier neighbours and wider stakeholders by championing excellence in environmental performance and compliance.
- The location of the Site adjacent to the significant Waitangi Estuary area, and on a main arterial route between Napier and Hastings.
- The new requirements for water quality set out in national and regional planning documents.

Early in the process of preparing for the 2021 replacement resource consents Ravensdown initiated an assessment of alternative options for the treatment and discharge of the stormwater and process water from the site to review both the method of treatment and the receiving environment utilising a Multi Criteria Decision Analysis process (**MCD**A). This MCDA process led to the preferred option being irrigation of the water onto land. Through the consent process Ravensdown have formed a Technical Focus Group (**TFG**), made up of representatives from key stakeholder groups including mana whenua. The TFG provided input and advice regarding both the development of feasible alternative options for the treatment and discharge of stormwater and process water from the site, and in deciding on the consenting pathway that Ravensdown has chosen for the site.

In order to achieve the company's volunteered water quality discharge conditions a multi-step treatment train will be installed. Details of the proposed treatment devices are in the Discharge to Water Strategy – *Ravensdown (November 2021b)* and Water Discharge Project Description located in the assessment of environmental effects prepared for the NWSSP applications. Supporting the objective of long-term sustainability, the devices will be engineered and commissioned in a phased approach over time.

The potential receiving environment water quality standards are complex as there are overlapping regional and national requirements applying to the Waitangi Estuary, with both coastal and freshwater regulations relevant. In addition, there are a multitude of discharges into the Waitangi Estuary area by other parties, where Ravensdown can only control its own discharges. The different regulatory documents have differing water quality standards, with different parameters specified, and various methods of measurement. Ravensdown have therefore taken a conservative approach and used the most stringent water quality discharge standards in formulating the resource consent conditions where more than one is prescribed.

3. Management Plan Objectives

The overall project objective for the NWSSP is:

“To establish the most sustainable long-term solution for treatment and discharges from the Ravensdown Napier Works to enable the continued operation of the site”

The specific objective of the AMP is:

“To stage and implement an engineered series of storm and process water treatment devices to meet the long-term water quality conditions volunteered by Ravensdown in the most effective, efficient and timely way.”

4. Proposed Timelines

TABLE 1: PROPOSED IMPLEMENTATION TIMEFRAMES

TIME FROM CONSENT GRANT	PROJECT COMPLETION
Year One	<ul style="list-style-type: none"> ▪ Design and engineering of Stage One water treatment devices as detailed in the Water Discharge Project Description. ▪ Design and engineering of precision irrigation system. ▪ Design and earthworks for the HARP Wetland project. Hydroseeding for ground stabilisation. ▪ Installation of groundwater monitoring bores. ▪ Completion of actions detailed in the Source Control Management Plan. ▪ Monitoring and reporting of discharge water quality ▪ Monitoring and reporting of shallow and deep groundwater quality.
Year Two	<ul style="list-style-type: none"> ▪ Installation and commissioning of Stage One water treatment devices. ▪ Installation and commissioning of precision irrigation system. ▪ Filling of the HARP Wetland with water. Planting to create habitat. ▪ Completion of actions detailed in the Source Control Management Plan. ▪ Monitoring and reporting of discharge water quality. ▪ Monitoring and reporting of shallow and deep groundwater quality.
Year Three	<ul style="list-style-type: none"> ▪ Completion of actions detailed in the Source Control Management Plan. ▪ Monitoring and reporting of discharge water quality. ▪ Monitoring and reporting of shallow and deep groundwater quality. ▪ Monitoring of the HARP Wetland ecology.
Year Four	<ul style="list-style-type: none"> ▪ Design and engineering of Stage Two water treatment devices as detailed in the Water Discharge Project Description. ▪ Completion of actions detailed in the Source Control Management Plan. ▪ Monitoring and reporting of discharge water quality. ▪ Monitoring and reporting of shallow and deep groundwater quality. ▪ Monitoring of the HARP Wetland ecology.
Year Five	<ul style="list-style-type: none"> ▪ Installation and commissioning of Stage Two water treatment devices. ▪ Completion of actions detailed in the Source Control Management Plan. ▪ Redirection of discharge water outfall to the HARP Wetland. ▪ Monitoring and reporting of discharge water quality. ▪ Monitoring and reporting of shallow and deep groundwater quality. ▪ Monitoring of the HARP Wetland ecology.

TIME FROM CONSENT GRANT	PROJECT COMPLETION
Year Six	<ul style="list-style-type: none"> ▪ Disestablishment of the “Ravensdown Drain”. ▪ Complete dilution dye study for HARP discharge and review zone of reasonable mixing. ▪ Completion of actions detailed in the Source Control Management Plan. ▪ Monitoring and reporting of discharge water quality. ▪ Monitoring and reporting of shallow and deep groundwater quality. ▪ Monitoring of the HARP Wetland ecology. ▪ Decision whether further treatment devices are required.

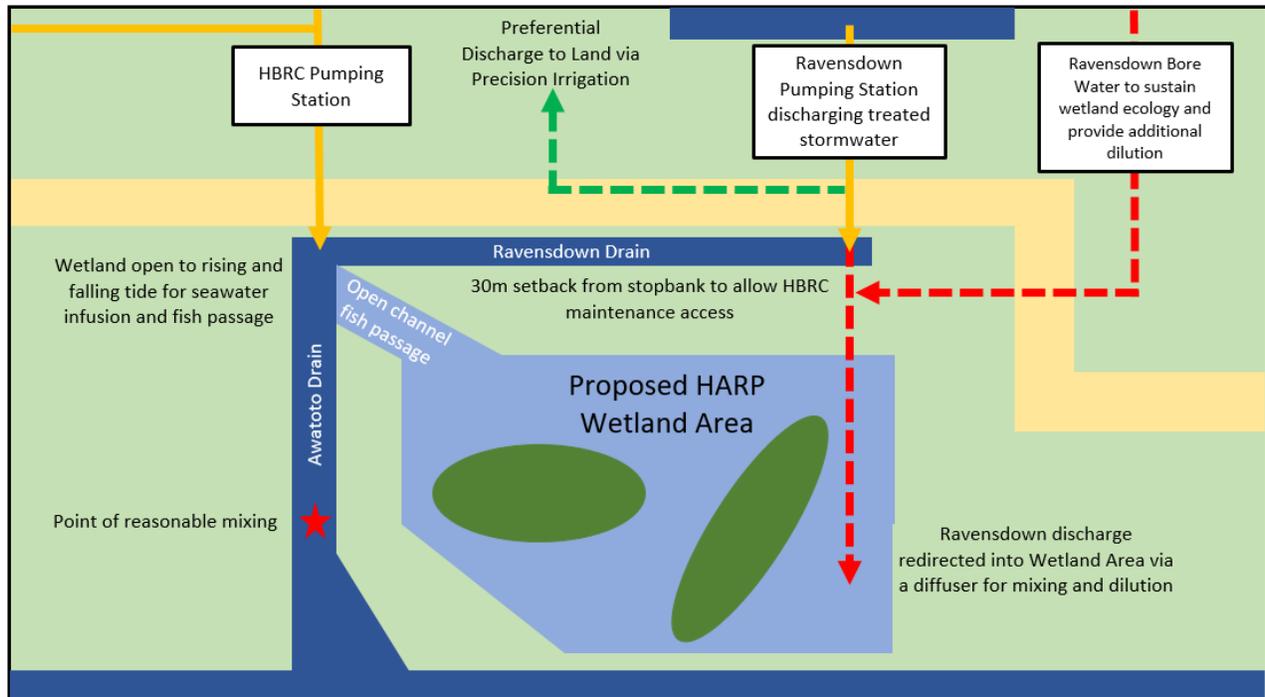


FIGURE 1: SCHEMATIC REPRESENTATION OF FUTURE STATE RAVENSDOWN WATER DISCHARGE ARRANGEMENT

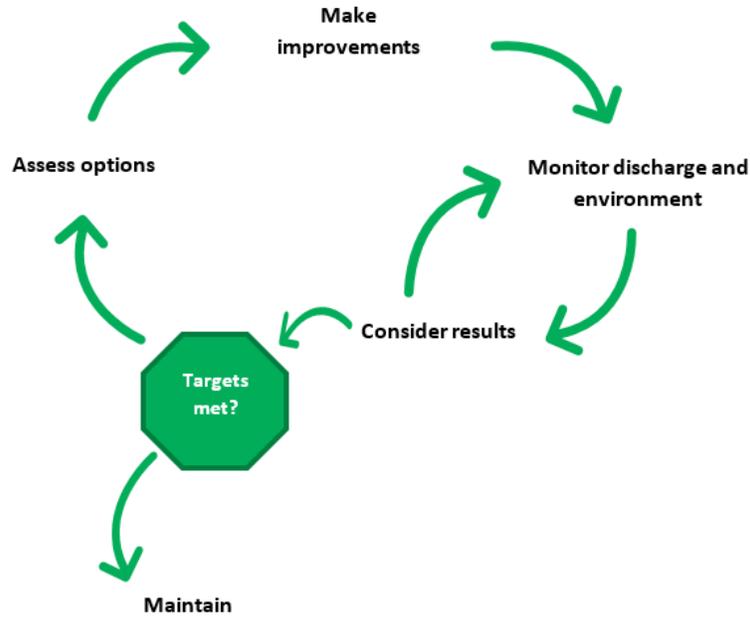
5. Monitoring and Reporting

Ravensdown will monitor the discharge water quality, and report to Council, through the conditions proposed in the application.

Ravensdown will consider the results of discharge water monitoring and assess whether adjustment of the treatment train is required to meet the water quality conditions over the 6 years of the Adaptive Management Programme set out in Table 1.

Sample points will be incorporated in the treatment devices installed. This will allow Ravensdown and their engineers to:

- Identify sources of higher water contamination that require further source controls.
- Assess the efficacy of the treatment devices.
- Aide ongoing system engineering and troubleshooting during commissioning and operation.



Ravensdown will monitor the wetland created through the HARP Plan – Ravensdown (November 2021e). Ravensdown will liaise closely with mana whenua and other interested stakeholders results of the water and ecological monitoring as set out in the resource consent conditions.

6. Review

This plan is a living document and should respond to changes on the site. It will be reviewed annually and updated as necessary as set out in the resource consent conditions.



ATTACHMENT 6

Habitat Abundance Restoration
Project Plan - September 2022
version

Ravensdown Napier Works

Habitat Abundance Restoration Project Plan

Author: Helen McCarthy

Date: ~~September~~ August 2022



[Placeholder for
Kohupatiki Marae Logo](#)



Document Information

DOCUMENT ID	
DOCUMENT OWNER	Helen McCarthy - Napier Consents Manager
ISSUE DATE	<u>19 September 2022</u>

Document History

VERSION	STATUS	ISSUE DATE	AUTHOR	CHANGES
V1.0	Draft for discussion with HARP working group	18 November 2021	Helen McCarthy – Ravensdown Andrew Torrens – Ravensdown Hans Rook	
V1.1	Approved for consent application	27 November 2021	Helen McCarthy - Ravensdown	
V1.2			Andrew Torrens - Ravensdown	<u>Minor changes throughout document.</u>

Document Review

ROLE	NAME	VERSION
Partner – Mitchell Daysh Ltd.	Stephen Daysh	V1.1

Document Sign-off

ROLE	NAME	SIGNATURE	DATE
Works Manager	Andrew Torrens		

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1. Introduction

The Napier Works Sustainable Site Project (**NWSSP**) embraces a step change on site in the management and treatment of discharges. This step change is reflective of:

- The strong desire for Ravensdown to be outward looking, responsive and respectful towards both its Napier neighbours and wider stakeholders by championing excellence in environmental performance and compliance.
- The location of the Site adjacent to the significant Waitangi Estuary area, and on a main arterial route between Napier and Hastings.
- The new requirements for water quality set out in national and regional planning documents.

Water treatment will consist of a multi-step treatment train, which will be installed in a phased approach. This is outlined in the project *Water Discharge Strategy - Ravensdown (November 2021a)* and *Adaptive Management Plan - Ravensdown (November 2021d)*.

As part of Ravensdown's Discharge Strategy a long-term commitment will be made to improve the ecological values of the area through a **HARP** (Habitat Abundance Restoration Project) (HARP) with the restoration of a wetland area south of the Ravensdown Works site in the Waitangi Regional Park.

The concept of a wetland area, to maximise the restoration potential, by establishing a permanent shallow wetland was previously proposed to the Hawkes Bay Regional Council in 2001¹.

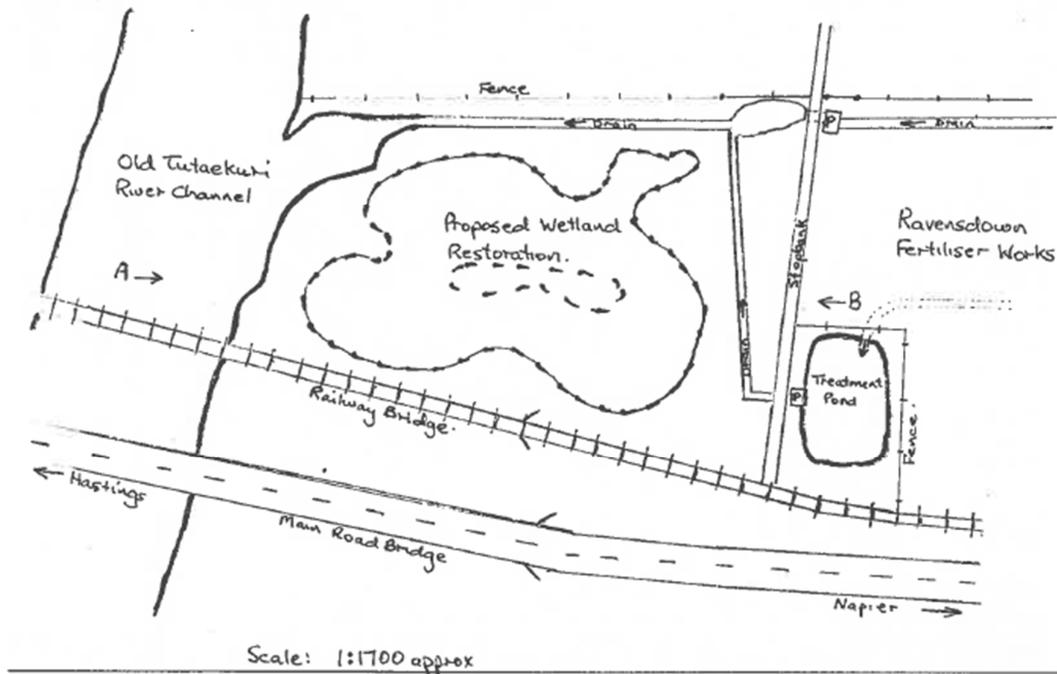


FIGURE 1: ORIGINAL SKETCH OF PROPOSED WETLAND SOUTH OF RAVENSDOWN NAPIER WORKS

¹ Bay Eco Solutions (2001), Ravensdown Fertiliser Works Wetland – Concept Plan

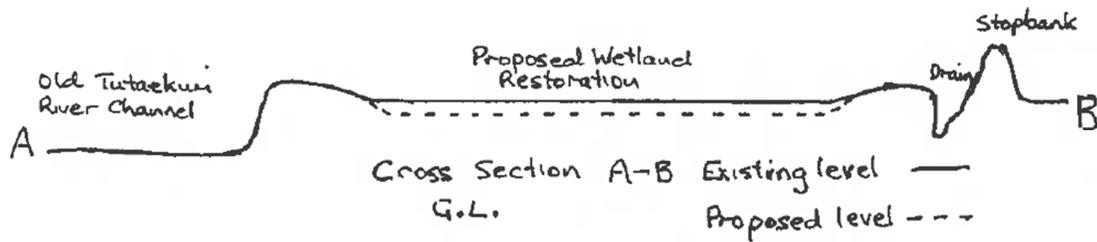


FIGURE 2: CROSS SECTION OF PROPOSED WETLAND SOUTH OF RAVENSDOWN NAPIER WORKS

As part of the consent process Ravensdown formed a Technical Focus Group (TFG), made up of representatives from key stakeholder groups to engage with Ravensdown during the renewal of both the water and air discharge permits. The purpose of the TFG was to provide advice and input to Ravensdown as part of a two-way information sharing process, including input into the assessment of alternative options for the treatment and discharge of the stormwater and process water from the site. During this process it was identified that the diminishing levels of Mahinga Kai within the immediate and outlying areas was a significant cultural concern to Mana Whenua.

Restoration of an area of the wetland was proposed during the TFG process by Ngāti Pārau. This was proposed as a tangible way to begin restoring the mauri of the area.

A HARP team was subsequently established with several representatives from the TFG. The project objective was developed through this group and a Te Reo translation was provided by Mana Whenua.

Ravensdown also met with key staff from the Open Spaces Team at the HBRC and will partner with both mana whenua and the eCouncil in the restoration of this wetland area. HBRC have provided a partnership agreement for the project included as Appendix 1. Final sign-off for the development will be sought through the HBRC both as landowners and the consent authority for resource consent associated with the project. Conditions have been proposed as part of Ravensdown's resource consent applications using an adaptive management approach with targets for increasing habitat abundance for key species. A Mātauranga Māori mauri monitoring programme will ~~also~~ be developed in consultation with Mana Whenua and an Ecologist.



FIGURE 3: SCHEMATIC REPRESENTATION OF THE PROPOSED HARP WETLAND

2. Project Objectives

The primary objective developed and agreed by the HARP working group is:

“Mā te mahi ngātahi te taiao me ngā taonga o te wahapū o Waitangi e whakapai ake”

“Wholistically partnering in improvement of the habitat and taonga of the Waitangi Estuary”

This objective will be delivered by:

1. The development of a wetland area that will provide amenity through natural and cultural landscape values and biodiversity.
2. Acknowledging the mana whenua and history of the area by providing visual displays commemorating the history of the area.
3. Agreeing a suitable name for the wetland that will bring together the values and history of the area.

3. Proposed Delivery Mechanisms

[Ravensdown will engage a suitably qualified wetland ecologist to work with mana whenua in preparing a wetland restoration plan in accordance with the National Environmental Standards for Freshwater 2020.](#)

Ravensdown have [already](#) engaged with experienced local wetland experts, John Cheyne and Hans Rook, along with mana whenua and HBRC experts to assist with the wetland design and to provide construction oversight/consultation.

The following provides a list of design requirements:

- A buffer zone of 30m from the toe of the stopbank to the new wetland to allow for service investigation requirements by the HBRC and potential widening or lifting.
- Permanent water to be supplied by a combination of:
 - Ravensdown discharge directly into the wetland area, following treatment of water through a treatment train.
 - Artesian bore supply from Ravensdown's existing consented bores, ~~or a dedicated bore within the regional park area.~~
- Allowance for ~~e~~Evapotranspiration at a rate of 0.7 litres per hectare per second. This equates to a maximum of 3,670m³ per month for 2 hectares that would be required for wetland sustainment.
- Construction of a fish pass/outlet where the Ravensdown Drain enters the Awatoto Drain.
- Shallow water areas less than 0.4 metres to attract waterfowl and wading birds.
- Sloping margins to allow birds to walk out of the water to rest or enter the water for food.
- Open margins, low lying mud banks and half submerged logs to provide loafing spots where waterfowl can rest and sun themselves.
- Irregular and long length edging to provide for feeding, loafing and shelter.
- Islands to provide additional edge as well as the least disturbance for nesting and loafing sites. Islands should not be too tall as this increases their attractiveness to rodents.
- Patches of tall grass and low bushy shrubs close to, or within the wetland providing good nesting sites and for Inaunga spawning.
- A 50/50 proportion of open water and vegetation.
- Overhead cover through emergent vegetation or overhanging trees.

~~Flood zone effects through scouring and debris.~~

~~Ecosourcing of plants.~~

A detailed planting plan to achieve the design objectives will be developed as the project progresses.

Ravensdown have approached both HBRC Open Spaces team and Ngāti Pārau Kaitiaki Rangers to discuss maintenance of the wetland area, ~~and~~ Ravensdown will ensure a suitable contract arrangement will be entered into for the long term maintenance program.

To establish a suitable level of stability within the wetland the advice is that a 12 month period will be required between any initial earthworks to shape the area and introducing water to the wetland. To encourage the establishment of the wetland a Rāhui would be placed on the area.

The following table sets out the proposed high level project schedule timeframes. This should be read in conjunction with Table 1 of the Adaptive Management Plan -Ravensdown (November 2021d) which provides more detail of the overall water treatment project.

TABLE 1: PROPOSED IMPLEMENTATION TIMEFRAMES

TIME FROM CONSENT GRANT	PROJECT COMPLETION
Year One	<ul style="list-style-type: none"> ▪ Rāhui placed on the area. ▪ Earthworks undertaken. ▪ Grassing of the wetland
Year Two	<ul style="list-style-type: none"> ▪ Wetland flooded with water ▪ Initial planting completed.

Year Three	<ul style="list-style-type: none"> ▪ <u>Monitoring of wetland ecology begins.</u> ▪ Maintenance Plan implemented. ▪ Further planting.
<u>Year Four</u>	<ul style="list-style-type: none"> ▪ <u>Monitoring of wetland ecology.</u> ▪ <u>Ongoing maintenance and pest control.</u>
<u>Year Five</u>	<ul style="list-style-type: none"> ▪ <u>Discharge water redirected into the wetland</u> ▪ <u>Monitoring of wetland ecology.</u> ▪ <u>Ongoing maintenance and pest control.</u>
<u>Year Six</u>	<ul style="list-style-type: none"> ▪ <u>Complete dilution dye study for discharge into the wetland and review zone of reasonable mixing.</u> ▪ <u>Monitoring of wetland ecology.</u> ▪ <u>Ongoing maintenance and pest control.</u>

4. Performance Targets

- Restoration of 2 hectares of land south of the Ravensdown Napier Works, within the Waitangi Regional Park.
- Increased biodiversity and abundance of habitat for key taonga species (measured each five years of the 35 year resource consent period through habitat abundance surveys).
- Effective pest control in the project area (measured through annual trapping statistics).
- Ongoing maintenance and management of the area.

5. Project Costs

TABLE 2: SUMMARY OF PROJECT COSTS

ITEM	ANNUAL COST	TOTAL PROJECT COST
Earthworks	\$ 60,000	\$ 60,000
Grassing	\$ 5,000	\$ 5,000
Planting (approximately 4,000 plants in years 2 and 3)	\$ 20,000	\$ 40,000
Management and maintenance (over 35 years) ²	\$ 15,000 ³	\$525,000
Total Cost	\$100,000	\$630,000

² Annual management and maintenance costs to be based on a contracted weed control and pest control program for the HARP area.

³ CPI adjusted

Appendix 1

04 November 2021

Andrew Torrens
Works Manager
Ravensdown
Napier, Hawke's Bay

Dear Andrew

SITE FOR PROPOSED ECOSYSTEM DEVELOPMENT, WAITANGI REGIONAL PARK

Thank you for the interest shown by Ravensdown to partner in the development of a new wetland with native planting at Waitangi Regional Park, location shown attached to this letter.

It is noted that Ravensdown have worked with ecologists, local hapu and interested high school students over the last year to partner in the development of this space within Waitangi Regional Park. Hawke's Bay Regional Council (HBRC) also note the following:

- HBRC own the land
- Ravensdown commit to the establishment, consenting process and ongoing maintenance of the wetland following development with suitably trained volunteers.
- As one of Hawke's Bay's top ecosystem sites, only treated water should be permitted to pass through the stormwater treatment facility into the Regional Park, within the acceptable parameters as outlined in the consent and through the TANK process. Which will align with the proposed moving of the Ravensdown stormwater discharge pipe to feed directly into the wetland rather than meet the HBRC stormwater drain as currently set up.
- Ravensdown will allow a buffer zone of 30m is left from the toe of the stopbank to the new wetland for proposed Stopbank Level of Service investigation and potential widening or lifting. This will allow HBRC access right to do any work and maintenance as required around the stopbank and pumpstation areas surrounding that encompass the wetland.

HBRC look forward to working together in developing this space to further enhance the biodiversity of this significant site.

Yours sincerely

Martina Groves
Regional Asset Manager





Ravensdown Wetland – Partnership Agreement

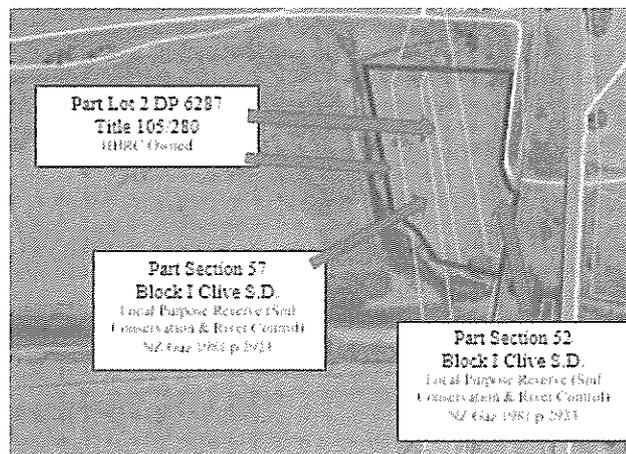
Agreement made this 29th day of November 2021

Between:

Hawke's Bay Regional Council ("Council") and
Ravensdown Limited ("Ravensdown").

Background:

- a) Council has the management and control of the Tutaekuri River in terms of the Hawke's Bay Regional Resource Management Plan, ("the Management Plan"). The Management Plan has an Objective OBJ45 being *'The maintenance or enhancement of the natural and physical resources, and use and values, of the beds of rivers and lakes within the region as a whole.'*
- b) Council owns a parcel of land shown in Red below. This land parcel contains 1.34 hectares (subject to survey), ("the Wetland Area")



- c) As an opportunity to support mana whenua and the wider community Ravensdown are developing the Wetland Area within the Waitangi Regional Park with the support of Council.

Partnership Agreement:

Council Obligations

1. The proposed Wetland Area is located upon land that is owned by Council. This land is held as Local Purpose Reserve (Soil Conservation and River Control) or held in Record of Title 105/280 in the name of the Hawke's Bay Regional Council.
2. Council has agreed to grant a non-exclusive Licence to Occupy to Ravensdown for the Wetland Area.
3. Council may carry out any works on land adjacent to, or near the 'Wetland Area'. Council will take all reasonable steps to ensure that the works are carried out in a way that causes a minimum of inconvenience to the 'Wetland Area'.
4. Council and Ravensdown may terminate this Licence at any time by giving six months' notice in writing. There is no entitlement to any compensation for any such early termination.
5. In the event of a flood that damages or destroys the Wetland Area within the duration of the Licence, Ravensdown will take all reasonable measures to remediate and restore the Wetland Area.

Ravensdown Obligations

6. For the duration of the Licence, Ravensdown will undertake the establishment, the consenting process and the ongoing maintenance of the Wetland Area in accordance with the HARP Plan presented to Council.
7. Ravensdown will only allow treated water to enter into the Wetland Area from their adjoining sites. This water shall be of the quality as outlined in the discharge consent and through the TANK process.
8. Ravensdown will redirect water entering the Wetland Area from their adjoining sites from the Council stormwater drain, directly into the Wetland Area. The design of this will be submitted to Council for approval prior to construction.
9. Ravensdown agrees to:
 - (a) occupy and use the Wetland Area at their own risk;
 - (b) take all reasonable care in developing the Wetland Area; and
 - (c) comply with its obligations under this Agreement.
10. Ravensdown acknowledges that Council may give notice requiring remedy of any breach of this Licence within a reasonable period of time.

11. The Council acknowledges that Ravensdown is undertaking the development and maintenance of the Wetland Area as a beneficial project for mana whenua and the community. Ravensdown will be responsible for the direct consequences of any breach of its obligations under this Licence.

Signed by


.....
Ravensdown Limited

in the presence of:
Signature of witness



Jaclyn Hankin

.....
Name of witness

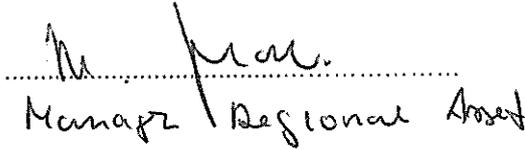
41 Heipipi Drive, Eskdale

.....
Address of witness

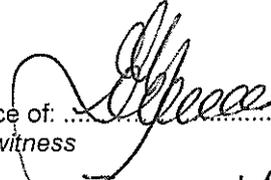
Engineer

.....
Occupation of Witness

Signed for and on behalf of the Hawke's
Bay Regional Council


.....
Manager Regional Asset

in the presence of:
Signature of witness



Louise van Jaarsveldt

.....
Name of witness

611 St Aubyn Street West

.....
Address of witness

Environmental Engineer

.....
Occupation of Witness