

MEMO

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COPIED TO Harry Wilson, CEO South Wairarapa District Council

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TOPIC **CORRECTIVE ACTION PLAN FOR MARTINBOROUGH WWTP IN RESPONSE TO ABATEMENT NOTICE A1020**

TOPIC

Greater Wellington Regional Council (GWRC) issued South Wairarapa District Council (SWDC) with an Abatement Notice for the Martinborough Wastewater Treatment Plant (WWTP) on the 15th August 2022.

A summary of the exceedances are as follows:

- Exceeding maximum daily volume and instantaneous rate of discharge (discharge to water)
- Exceeding nutrient discharge limits (discharge to water)
- Six exceedances of *E. coli* limits (discharge to water)
- Exceeding the hydraulic loading rate (discharge to land)

The Abatement Notice requested the submission of a “proposal for corrective actions to bring the Martinborough Wastewater Treatment Plant into full compliance with WAR120258 by 1 December 2022.” As your trusted advisor, Wellington Water (WWL), has worked with SWDC representatives over the last few months to develop the corrective action plan detailed in this letter, to achieve compliance at the Martinborough WWTP.

A staged upgrade approach is proposed to address the non-compliance issues at the Martinborough WWTP; WWL understands that funding of the staged upgrade approach is subject to SWDC annual plan sign off and council approval processes.

Background

Since commencing responsibility for operating the Martinborough WWTP in 2019, WWL has been developing our understanding of the asset’s condition and capacity, and subsequently preparing funding advice to SWDC, as part of our annual and long-term planning processes.

In December 2021, WWL provided preliminary advice to SWDC of the scale of upgrade required at the Martinborough WWTP, up to and including completion of the Stage 2A consent requirements.

On the 12th August 2022, WWL approved an Activity Brief for a major upgrade of the Martinborough WWTP. The objective of the upgrade was to address consent compliance, and health & safety issues identified at the site. The upgrade scope includes: new inlet works, pond desludging, a new outlet pump station and UV system, development of the Pain Farm irrigation site (Stage 2A of the consent), site ancillary works (including Health & Safety improvements), process optimisation, and submission of a section 127 for the Stage 1B disposal activity as proposed by the GWRC commissioned independent review. The value of this package of work is \$27 million (Level 1 cost estimate prepared in 2021).

While recognising this upgrade programme of work is essential for WWTP compliance, an upgrade of \$27M is currently not within SWDC's long term plan for funding allocation to the Martinborough WWTP. SWDC have currently planned to spend \$4.3M over the period 2024-2027 on the Martinborough WWTP. Due to SWDC's small rate payer base, this programme of work in the Activity Brief was therefore scheduled over the period 2024-2031, commencing when new, 'unconstrained' funding is anticipated to become available under Water Reform (rather than from 2022 onwards).

Abatement Notice

Subsequently, on the 15th August 2022, Greater Wellington Regional Council issued an Abatement Notice for the Martinborough WWTP, instructing the cessation of unauthorised discharges by 15 August 2023. The breaches include exceeding the instantaneous discharge rates, discharge volumes, nutrient limits, *E. coli* limits for discharge to water; and exceeding the hydraulic loading rate for discharge to land.

In general, the unauthorised discharges are acknowledged, but WWL raises the following points of clarification:

- The discharge to river pump capacity was installed prior to the current consent being granted. There remains a discrepancy in the resource consent between the maximum wastewater discharge volume (m³/d) and the maximum wastewater discharge rate (l/s) listed in Schedule 2, Table 1 (WAR120258[31707]).
- It has been found that two of the reported *E. coli* exceedances were from samples collected when no discharge was occurring and therefore the ultraviolet disinfection process was not operating. WWL notes that the number of high *E. coli* results reported in this report did still result in a breach of the resource consent disinfected effluent conditions.
- The discharge to land activity has recently been operated as a deficit irrigation activity, within the field's other operating parameters, as advised in previous correspondence with GWRC.

Current Funding & Deliverability of the Upgrade

The scope of the site's proposed upgrade programme will mitigate the cause of the exceedances listed in the Abatement Notice but not within the deadline given of 15 August 2023. CAPEX funding availability and project deliverability mean the upgrade project cannot be completed by 15 August 2023.

Currently SWDC has allocated capital expenditure (CAPEX) funding to the Martinborough WWTP upgrade of \$55,000 for Year 2 (July 2022-June 2023) and \$205,000 for Year 3 (July 2023-June 2024).

Under the 'unconstrained' Entity C CAPEX programme currently being developed as part of Three Waters Reform, WWL has requested \$27M for the Martinborough WWTP, over the 10-year period July 2024-July 2034. This funding request is heavily focused on the first three years of this 10-year period (2024-2027). WWL will also advise SWDC to incorporate this same level of funding into their 2024 long term plan, in the event that Water Reform does not eventuate (i.e. \$20M rather than the current \$4.3M). This assumes \$7M of upgrades will be undertaken in the period 2022-2024, as per the staged upgrade approach. The next new long term plan cycle starts from July 2024, and this is typically the point in time when new projects, or significant project increases, can more easily be incorporated into the council's CAPEX programme.

Under a scenario where funding was not a constraint, it is still not realistically possible to fully meet the Abatement Notice deadline of 15 August 2023. Typically, a CAPEX project takes a minimum of three years to implement. Wellington Water's project delivery framework allocates one year to investigation/concept design, one year to detailed design, and one year for construction. Given that the Martinborough WWTP upgrade is complex and extensive, and with consideration of supply chain constraints (labour as well as equipment), constructing the upgrade works within one year is considered impossible. Therefore, we cannot physically meet the abatement notice deadline of 15 August 2023, and a minimum upgrade programme of three years is recommended to be requested of GWRC.

Re-Prioritisation of Planned Upgrade to Address Abatement Notice

The abatement notice requires addressing, notwithstanding the current limited CAPEX budget and timeframe limitations outlined above. In October 2022, WWL presented SWDC with a range of options for re-prioritising components from the Activity Brief with varying funding scenarios, consideration of constructability, and ultimately what would have the most effect on improving environmental outcomes.

The plant upgrade delivery options presented ranged from completing the planned upgrade within a three-year period, to delivering it over the original ten-year period (as presented prior to the receiving the Abatement Notice).

WWL notes that desludging of the ponds is defined by SWDC as an operating expense (OPEX) and is thus considered separately to the CAPEX programme under council budget allocation processes.

Proposed Corrective Action Plan

As a result of the re-prioritisation process undertaken in October 2022, SWDC advised that the staged upgrade approach outlined in Table 1 fits within a manageable funding envelope. This option requires SWDC to request additional CAPEX and OPEX funding over the next 1.5 years (until June 2024) and is subject to council approval. Funding requested beyond July 2024 also requires approval.

Table 1 – Proposal for Corrective Actions at the Martinborough WWTP

Date	Proposed Works	How this Addresses the Abatement Notice & Overall Plan for the WWTP	Budget
By 15 August 2023	<ul style="list-style-type: none"> Submit section 127 for Stage 1B Land Disposal to operate as deficit irrigation, not at a set application rate per week. Minor control system modifications at outlet pump station. Network investigations to find high ammonia source, if any. 	<ul style="list-style-type: none"> Resolves land disposal non-compliance for Stage 1B, as proposed by specialist review of irrigation activity by GWRC in 2022. Partially addresses discharge rate to river exceedances but cannot fully achieve with existing equipment. May help to address ammonia effluent quality exceedances. 	2022-2023 CAPEX \$55K 2023-2024 CAPEX \$205K
December 2022 – June 2024	<ul style="list-style-type: none"> Design and construct new outlet pump station & UV disinfection system to match consented capacity & provide for future transfer to Pain Farm. This is a readily constructable piece of work which fits within the additional CAPEX that SWDC may be able to fund, within the next two years. 	<ul style="list-style-type: none"> Resolves discharge rate exceedances by replacing the old pump station and matches discharge to water rates with full consented capacity. Improves hydraulic constraints of plant, by optimising discharge to water under high river flows, thus reducing strain on Stage 1B irrigation field. Ensures <i>E. coli</i> compliance with new UV disinfection. 1st step in developing Stage 2A irrigation. 	\$7M CAPEX <ul style="list-style-type: none"> Currently unfunded by SWDC - to be requested in addition to currently approved Year 2 and 3 CAPEX funding
2023 if SWDC OPEX available OR from July 2024 if no OPEX available	Desludging of the primary facultative pond: <ul style="list-style-type: none"> If GW grant permission to place geobags beside pond, this budget will remove ~50-80% of the sludge. Sludge removal from site would be from 2024 onwards. If mechanical dewatering and offsite disposal undertaken, this budget will only remove ~20% of the sludge from the pond. 	<ul style="list-style-type: none"> Improves pond treatment capacity and therefore improves effluent quality (BOD/TSS, nutrient and therefore also faecal compliance) for discharge to water and land. 	\$300K OPEX <ul style="list-style-type: none"> Currently unfunded by SWDC – to be requested in addition to currently approved Year 2 and 3 OPEX funding
July 2024 onwards	<ul style="list-style-type: none"> Design and complete construction of full upgrade programme (inlet works, 50 ha irrigation system, ancillary works) before 2030. 	<ul style="list-style-type: none"> Achieves Stage 2A consent compliance. Discharges significantly more treated effluent to Stage 2A site, thus removing nutrient load from the discharge to water route. 	\$20M CAPEX <ul style="list-style-type: none"> Funding requested via Entity C (Water Reform) or SWDC. \$4.3M currently proposed.

Conclusion

WWL, in conjunction with SWDC as the asset owner, trusts that GWRC will carefully consider the information contained within this memo regarding funding availability and upgrade deliverability, and how we are already planning to address the non-compliances.

WWL look forward to continuing to work collaboratively with SWDC and GWRC, as we progress plant upgrades to address the compliance issues at the Martinborough WWTP.

WWL proposes that a review is held regularly with representatives of GWRC and SWDC, such that progress can be assessed against the proposed corrective action plan.