Waimakariri District Council

Utilities and Roading Committee

Agenda

Tuesday 25 November 2025
9am

Council Chambers
215 High Street
Rangiora

Members:

Deputy Mayor Philip Redmond (Chairperson)
Cr Tim Bartle
Cr Tim Fulton
Cr Niki Mealings
Cr Joan Ward
Mayor Dan Gordon (ex officio)

WAIMAKARIRI
DISTRICT COUNCIL

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The Chairperson and Members
UTILITIES AND ROADING COMMITTEE

A MEETING OF THE UTILITIES AND ROADING COMMITTEE WILL BE HELD IN THE COUNCIL CHAMBER, RANGIORA SERVICE CENTRE, 215 HIGH STREET, RANGIORA, ON TUESDAY 25 NOVEMBER 2025 AT 9AM.

Sarah Nichols
GOVERNANCE MANAGER

Recommendations in reports are not to be construed as Council policy until adopted by the Council

BUSINESS

Page No

1 APOLOGIES

2 CONFLICTS OF INTEREST

Conflicts of interest (if any) to be reported for minuting.

3 DEPUTATION/PRESENTATIONS

3.1 **Parking Restrictions at Waimak Junction, Kaiapoi – Jedd Pearce**

J Pearce will be in attendance to speak to the Committee about parking restrictions at Waimak Junction in Kaiapoi.

4 REPORTS

4.1 **Request Approval for Changes to Hakarau Road No Stopping Restrictions –** Nithin Puthupparambil (Transport Engineer) and Shane Binder (Senior Transport Engineer)

11 – 15

RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 251013193720.

(b) **Approves** the following revised No Stopping restrictions:

i. Hakarau Road on the north side of the road - from 30.5m west of the pedestrian crossing between No. 7 and No. 21 to 22m east of the pedestrian crossing.

ii. Hakarau Road on the south side of the road - from 30.5m west of the pedestrian crossing between No. 7 and No. 21 to 22m east of the pedestrian crossing.

(c) **Notes** that the impacts on the Community of the stopping restriction are considered to be very minor, and there is increasing pressure from businesses to address the parking concerns quickly. As such, this report is being brought directly to the Committee for consideration.

(d) **Notes** that staff consulted with some (but not all) of the adjacent businesses to discuss on-street parking and heavy vehicle usage, which has been incorporated in the recommended revision.

(e) **Notes** that the proposed revision is expected to result in approximately 16 additional on-street parks.

(f) **Circulates** the report to the Kaiapoi-Tuahiwi Community Board for their information.

4.2 **Town Centre Upgrades Budget Criteria Approval** – Heike Downie (Strategy and Centres Team Leader) and Don Young (Senior Engineering Advisor)

16 – 33

RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 250723134948.

(b) **Approves** the criteria to underpin suitability of utilising the Town Centre Upgrades budget (PJ100359.000.5134), being: amenity focus, road enhancements, pedestrian and alternative mode, and activation – which are detailed further in paragraph 4.3.

(c) **Notes** the process that will be applied for identifying candidate projects, seeking the relevant approval and implementing works, as detailed in paragraph 4.6 which includes elected member engagement and decision-making steps.

4.3 **Eastern District Sewer Scheme and Oxford Sewer Scheme Annual Compliance Reports 2024/25** – Caroline Fahey (Water and Wastewater Asset Manager)

34 – 131

RECOMMENDATION

THAT the Utilities and Roading Committee:

(d) **Receives** Report No. 251106211871.

(e) **Notes** that full compliance was achieved for all Eastern District Sewer Scheme (EDSS) Ocean Outfall consent conditions relating to environmental limits during the 2024-25 monitoring period, with the exception of low dissolved oxygen levels measured at the Woodend and Rangiora WWTPs, which did not impact on the overall performance of the treatment system and had no environmental impact on the receiving environment.

(f) **Notes** that full compliance was achieved for the Oxford Sewer Scheme consent conditions relating to environmental limits during the 2024-25 monitoring period, except there were some non-compliances relating to temporary overflow of the wet weather holding pond during the May 2025 weather event and exceedances of irrigation application depths due to inaccurate monitoring data. These did not affect the overall performance of the wastewater treatment system and had no environmental impact on the receiving environment.

(g) **Notes** that Environment Canterbury are currently reviewing the Annual Compliance Monitoring Reports for the 2024-25 period and a compliance report will be issued by ECan following the completion of their review

(h) **Circulates** this report to all Community Boards for their information.

(i) **Circulates** a copy of this report to Te Ngāi Tūāhuriri Rūnanga and Te Kōhaka o Tūhaitara Trust for their information.

4.4 **Drinking Water Quality and Compliance Annual Report 2024-2025** – Caroline Fahey (Water and Wastewater Asset Manager)

132 – 171

RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 251106211870.

(b) **Notes** that the assessment of Council's drinking water compliance for the 2024-25 compliance year is based on requirements of the Water Services Act 2021 and Drinking Water Assurance Rules (DWQAR) and is aligned with the updated DIA Non-financial Performance Measures Rules 2024 (the Rules).

(c) **Notes** that results achieved for the 2024–25 compliance period were very good, particularly given that the DWQAR requirements came into immediate effect in November 2022. Council had a very short timeframe to respond yet successfully implemented an accelerated UV programme across the district within the legislative deadline.

(d) **Notes** that for the 2024-25 compliance year, all drinking water supplies that had chlorine and UV treatment installed for the entire period achieved either "All Met (100%)" or "Almost Met (95-99.99%)" compliance grading. The remaining supplies did not achieve full compliance mainly due to UV treatment not yet being installed. There were also some technical non-compliances relating to data capture issues.

(e) **Notes** that as of 1 November 2025, UV treatment has been installed on all of Council's drinking water supplies and are fully operational which will resolve the key issues resulting in the non-compliances reported for this period.

(f) **Notes** that overall the results for the 2024-25 assessment period are a significant improvement over previous years. This is mainly due to the installation of UV treatment to a number of supplies, which enables bacterial and protozoal compliance to be met, as well as improvements implemented in the areas of sampling and monitoring.

(g) **Circulates** this report to the Community Boards for their information.

(h) **Circulates** a copy of this report to Te Ngāi Tūāhuriri Rūnanga for their information.

4.5 **Midge Monitoring and Management at Wastewater Treatment Plants 2024-2025 –** Sophie Allen (Water Environment Advisor)

172 – 184

RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 251030205990.

(b) **Notes** the use of the larval disruption dredging, vegetable oil surfactant spreading and *Bacillus thuringiensis* (Bti) techniques are being employed at Kaiapoi and Woodend Wastewater Treatment Plants (WWTPs) for midge management.

(c) **Notes** that Bti treatment at Woodend WWTP in November-December 2024 was applied immediately after a sharp reduction in midge numbers, and therefore the reduction in midges is likely caused by other factors and may not be related to the Bti treatment.

(d) **Notes** that the vegetable oil trial at Woodend WWTP 2024-25 (with control and treatment areas) showed no decrease in midge numbers with the vegetable oil treatment. Council staff therefore plan to review the use of vegetable oil at Woodend WWTP for future use.

(e) **Notes** that midge monitoring (and treatment methods when required) commenced earlier in spring in 2024-25, i.e. from the beginning September 2024, rather than in October in previous years, as complaints from neighbours indicate that midges are

first emerging from the beginning of September or even earlier.

(f) **Notes** that in 2024-25 at Kaiapoi WWTP, yellow sticky traps were installed for monitoring as a replacement for emergence traps used in previous years, as a preferred monitoring technique.

(g) **Notes** the cost of midge management for Kaiapoi and Woodend WWTP is estimated to have been approximately $42,167 (excl. GST) and $17,706 (excl. GST) respectively for the 2024-2025 season, with an additional cost of $4,357 (excl. GST) for midge emergence trap and yellow sticky trap monitoring costs for both WWTPs, sourced from existing operational budgets. There is cost-saving with monitoring as the ecological contractors are also present on site to carry out avian botulism inspections.

(h) **Notes** that Council staff will continue to communicate proactively with affected residents about midge management.

(i) **Notes** that the Council has submitted an updated insect control management plan (entitled 'Midge Management Plan - Kaiapoi and Woodend Wastewater Treatment Plants') focusing on non-insecticide control methods, to Environment Canterbury in August 2024 as fulfilment of a condition in consent CRC041049.

(j) **Circulates** this report for information to the Kaiapoi-Tuahiwi and Woodend-Sefton Community Boards.

4.6 **Herbicide Update and Usage by Council and Contractors in 2024/2025** – Sophie Allen (Water Environment Advisor)

185 – 194

RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 251023201716.

(b) **Notes** that herbicide use is minimised where possible for Council operations and only used where deemed necessary by Council staff and contractors. Other (i.e. mechanical) weed control options are used where they are deemed more appropriate.

(c) **Notes** the herbicides and their use are as approved by the Environmental Protection Authority (EPA), however spray additives are usually not required to be approved by the EPA.

(d) **Notes** the following report contains actions for WDC staff to; monitor the Environmental Protection Authority for relevant reassessments, reviews or approval changes; monitor for updates to relevant peer-reviewed research; provide guidance to contractors on spray additives; extend the scope of the WDC Roading 'No Spray' register; and require relevant contractors to be Growsafe Registered Chemical Applicators.

(e) **Notes** that spraying over water by Council and its contractors is very limited, with a preference for mechanical maintenance for rural drains and stockwater races. If spraying near or over water is carried out (with a risk of discharge of contaminants to the waterway), it is following consent CRC120402 and Glyphosate 360 is applied for this. No diquat has been used by the Council in 2024-25, although permitted by CRC120402.

(f) **Notes** that the budgets in the Long Term Plan 2024-34 have been based on continuing to use herbicides, including glyphosate, for weed control, where deemed necessary by Council staff and contractors.

(g) **Notes** that the EPA decided not to review the herbicide glyphosate in 2024, as there was insufficient evidence that an update was required from the previous review conducted in 2016. A challenge by the appellant, the Environmental Law Initiative (ELI) to this decision was unsuccessful in the High Court in October 2025.

(h) **Notes** that there is a planned review by the EPA of polyoxyethylene amine (POEA) surfactants commonly used with herbicides, due to claims that these surfactants should be restricted, however no date for this review has been announced.

(i) **Circulates** this report to Community Boards, and Drainage Advisory Groups.

5 PORTFOLIO UPDATES

5.1 **Roading – Councillor Philip Redmond**

5.2 **Drainage, Stockwater and Three Waters (Drinking Water, Sewer and Stormwater) – Councillor Tim Fulton**

5.3 **Solid Waste– Councillor Niki Mealings**

5.4 **Transport – Mayor Dan Gordon**

6 REPORTS REFERRED FROM COMMUNITY BOARDS

6.1 **Request for approval to establish a School Patrol and Kea Crossing on Townsend Road at Te Matauru School** – Joanne McBride (Roading and Transport Manager) and Peter Daly (Road Safety Coordinator/Journey Planner)

(Refer to the attached copy of report Trim no. 250326051559 to the Rangiora-Ashley Community Board Meeting of 12 November 2025).

RECOMMENDATION *195 – 202*

THAT the Utilities and Recreation Committee:

(a) **Approves** the establishment of a School Patrol and Kea Crossing on Townsend Road at the existing crossing point, which is located between the western pedestrian gates of Te Matauru Primary School.

(b) **Notes** that budget has previously been approved for this project as part of the Minor Safety Programme (School Safety Projects PJ 102717.000.5133).

6.2 **Approval to Install No Stopping Restrictions – Charles Upham Drive** – Joanne McBride (Roading and Transport Manager) and Srinath Srinivasan (Project Engineer (PDU))

(Refer to the attached copy of report Trim no. 250822155240 to the Rangiora-Ashley Community Board Meeting of 12 November 2025).

RECOMMENDATION *203 – 209*

THAT the Utilities and Recreation Committee:

(c) **Approves** the installation of no-stopping restrictions to accommodate the planned pedestrian refuge island installation.

(d) **Notes** that the no stopping restrictions required as a result of this project will be a 20m extension of the existing no-stopping on the eastern side Charles Upham Drive outside the Rymans Stormwater Reserve, to 55m north of the Oxford Road intersection.

(e) **Notes** that the installation of no stopping lines at this site equates to the loss of three on-street car parking spaces.

(f) **Notes** that consultation was undertaken and this pedestrian refuge is supported by Rymans Retirement Village Management and the adjacent Acorns Cafe. As part of the consultation the Montessori Preschool has been provided with the plans and have been asked to provide feedback. Staff have followed up regarding the proposal on multiple occasions, however, have had no response back.

(g) **Notes** budget for the proposed works has previously been approved for this project as part of the Minor Safety Programme (Walking and Cycling Projects PJ102719.000.5133).

6.3 **Provide Consultation Feedback and Request Approval of Coronation Street No-stopping Restriction**– Joanne McBride (Roading and Transport Manager) and Shane Binder (Senior Transportation Engineer)

(Refer to the attached copy of report Trim no. 251013193629 to the Rangiora-Ashley Community Board Meeting of 12 November 2025).

RECOMMENDATION *210 – 219*

THAT the Utilities and Recreation Committee:

(a) **Approves** installation of the following no-stopping restriction:

- Coronation Street, from the Southbrook Road intersection for 55m west to the driveway at no. 31.

6.4 **Proposed Changes to Ohoka Road Line Markings** – Joanne McBride (Roading and Transport Manager) and Kieran Straw (Civil Projects Team Leader)

(Refer to the attached copy of report Trim no. 250825156479 to the Kaiapoi-Tuahiwi Community Board Meeting of 17 November 2025).

RECOMMENDATION *220– 227*

THAT the Utilities and Recreation Committee:

(a) **Approves** the proposed line marking changes (Trim: 250903167205).

(b) **Notes** that the estimated cost associated with the proposed line marking changes is $1,600, and this will be funded through the Traffic Services budget (GL 10.270.583.2500)

(c) **Notes** that the proposed line marking changes are in accordance with the Engineering Code of Practice.

(d) **Notes** that there is no change to on-street parking as a result of the proposed changes.

7 QUESTIONS UNDER STANDING ORDERS

8 URGENT GENERAL BUSINESS

9 MATTERS TO BE CONSIDERED WITH THE PUBLIC EXCLUDED

In accordance with section 48(1) of the Local Government Official Information and Meetings Act 1987 and the particular interest or interests protected by section 6 or section 7 of that Act (or sections 6, 7 or 9 of the Official Information Act 1982, as the case may be), it is moved:

That the public be excluded from the following parts of the proceedings of this meeting:

9.1 Contract 25-84 Asphalt and Seal Repairs - Tender Evaluation and Contract Award Report.

9.2 Contract 25/42 Laboratory Testing Services Tender Evaluation and Contract Award Report.

9.3 CON25/69 - Domain Road Well No.3 - Well Head Construction – Tender Evaluation and Contract Award Report.

9.4 McIntosh Drain (Eders to Gladstone) Upgrade Award of design services contract to Baseline Group.

9.5 Contract 25/54 Percival Street Wastewater Upgrade & Water Renewals 2025/26 Tender Evaluation and Contract Award Report.

9.6 Contract 21/40 – Townsend Road Culvert Installation Tender Evaluation and Contract Award Report.

The general subject of each matter to be considered while the public is excluded, the reason for passing this resolution in relation to each matter, and the specific grounds under section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution are as follows:

Item No.	Subject	Reason for excluding the public	Grounds for excluding the public.
9.1	Contract 25-84 Asphalt and Seal Repairs - Tender Evaluation and Contract Award Report	Good reason to withhold exists under Section 7	To protect the privacy of natural persons and enabling the local authority to carry on without prejudice or disadvantage, negotiations (including commercial and industrial) negotiations and maintain legal professional privilege **LGOIMA Section 7 (2)(a), (g) and (i).**
9.2	Contract 25/42 Laboratory Testing Services Tender Evaluation and Contract Award Report	Good reason to withhold exists under Section 7	To protect the privacy of natural persons and enabling the local authority to carry on without prejudice or disadvantage, negotiations (including commercial and industrial) negotiations and maintain legal professional privilege **LGOIMA Section 7 (2)(a), (g) and (i).**
9.3	CON25/69 - Domain Road Well No.3 - Well Head Construction – Tender Evaluation and Contract Award Report	Good reason to withhold exists under Section 7	To protect the privacy of natural persons and enabling the local authority to carry on without prejudice or disadvantage, negotiations (including commercial and industrial) negotiations and maintain legal professional privilege **LGOIMA Section 7 (2)(a), (g) and (i).**
9.4	McIntosh Drain (Eders to Gladstone) Upgrade Award of design services contract to Baseline Group	Good reason to withhold exists under Section 7	To enable the local authority holding the information to carry out, without prejudice or disadvantage, commercial activities. **LGOIMA Section 7(2)(h).**
9.5	Contract 25/54 Percival Street Wastewater Upgrade & Water Renewals 2025/26 Tender Evaluation and Contract Award Report	Good reason to withhold exists under Section 7	To protect the privacy of natural persons and enabling the local authority to carry on without prejudice or disadvantage, negotiations (including commercial and industrial) negotiations and maintain legal professional privilege **LGOIMA Section 7 (2)(a), (g) and (i).**
9.6	Contract 21/40 – Townsend Road Culvert Installation Tender Evaluation and Contract Award Report	Good reason to withhold exists under Section 7	To enable the local authority holding the information to carry out, without prejudice or disadvantage, commercial activities. **LGOIMA Section 7(2)(h).**

CLOSED MEETING

Refer to Public Excluded Agenda (Separate Document).

OPEN MEETING

NEXT MEETING

The next meeting of the Utilities and Roading Committee is scheduled for Tuesday 9 December 2025 at 9am in the Council Chamber, Rangiora Service Centre, 215 High Street, Rangiora.

Workshop

- *Cust Rural Recycling Facility Update – Kitty Waghorn (Solid Waste Asset Manager) and Monese Ball (Solid Waste Officer)*

Briefing

- *Ashley River Stopbank Project – Shaun McCracken (Environment Canterbury) and Liam Allen (Environment Canterbury)*
- *West Waimakariri Wastewater Strategy – Kalley Simpson (3 Waters Manager), Caroline Fahey (Water and Wastewater Asset Manager) and Rob Kerr (Programme Manager).*

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-03-09 / 251013193720
REPORT TO:	UTILITIES & ROADING COMMITTEE
DATE OF MEETING:	25 November 2025
AUTHOR(S):	Nithin Puthupparambil, Transportation Engineer Shane Binder, Senior Transportation Engineer
SUBJECT:	Request approval for changes to Hakarau Road No Stopping Restrictions
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / pp Chief Executive

1. SUMMARY

1.1. This report seeks approval of the following revised no-stopping restrictions:

- Hakarau Road on the north side of the road, from 30.5m west of the pedestrian crossing between No. 7 and No. 21 to 22m east of the pedestrian crossing.
- Hakarau Road on the south side of the road, from 30.5m west of the pedestrian crossing between No. 7 and No. 21 to 22m east of the pedestrian crossing.

1.2. Staff have received requests from public regarding parking availability on Hakarau Road and the possibilities of removing the parking restrictions. The adjacent development has been constructed in stages, which has led to increased parking demand along the street.

1.3. Staff have undertaken a review of the street and the clear sight distance leading into the pedestrian crossing point and have determined that the length of No Stopping restriction can be reduced, while still retaining adequate visibility to the crossing point to ensure pedestrian safety is not compromised.

2. RECOMMENDATION

THAT the Utilities & Roading Committee:

(a) **Receives** Report No. 251013193720.

(b) **Approves** the following revised No Stopping restrictions:

- Hakarau Road on the north side of the road - from 30.5m west of the pedestrian crossing between No. 7 and No. 21 to 22m east of the pedestrian crossing.
- Hakarau Road on the south side of the road - from 30.5m west of the pedestrian crossing between No. 7 and No. 21 to 22m east of the pedestrian crossing.

(c) **Notes** that the impacts on the Community of the stopping restriction are considered to be very minor, and there is increasing pressure from businesses to address the parking concerns quickly. As such, this report is being brought directly to the Committee for consideration.

(d) **Notes** that staff consulted with some (but not all) of the adjacent businesses to discuss on-street parking and heavy vehicle usage, which has been incorporated in the recommended revision.

(e) **Notes** that the proposed revision is expected to result in approximately 16 additional on-street parks.

(f) **Circulates** the report to the Kaiapoi-Tuahiwi Community Board for their information.

3. BACKGROUND

3.1. Hakarau Road was reconstructed in 2023 as part of Waimak Junction development, as a local road, with an ADT of 372 (last measured but note it is likely to increase given on-going development adjacent), and an average operating speed of 40 km/hr.

3.2. The existing pedestrian crossing is a priority crossing, reinforced by raised speed tables on both approaches. These features are designed to slow vehicle speeds to approximately 30 km/hr, enhancing pedestrian safety and visibility.

3.3. NZTA's Pedestrian Network Guidance suggests pedestrian crossing facilities should be located and designed such that there is a clear view between approaching drivers and pedestrians on the crossing or waiting to cross the roadway.

3.4. Two key sight distance parameters are applied to the design of a pedestrian crossing to maintain this intervisibility. These sight distances are shown below in Figure 1:

- Approach sight distance (ASD) ensures that approaching drivers are aware of the presence of a crossing in time to respond appropriately. The ASD at the pedestrian crossing on Hakarau Road is 48m.
- Crossing sight distance (CSD) ensures that people about to cross can see approaching traffic with sufficient time to judge a safe gap and cross the roadway. Considering the raised speed tables on approach to the crossing slow down the traffic to approximately 30 km/hr, the CSD at the pedestrian crossing on Hakarau Road is 71 m.

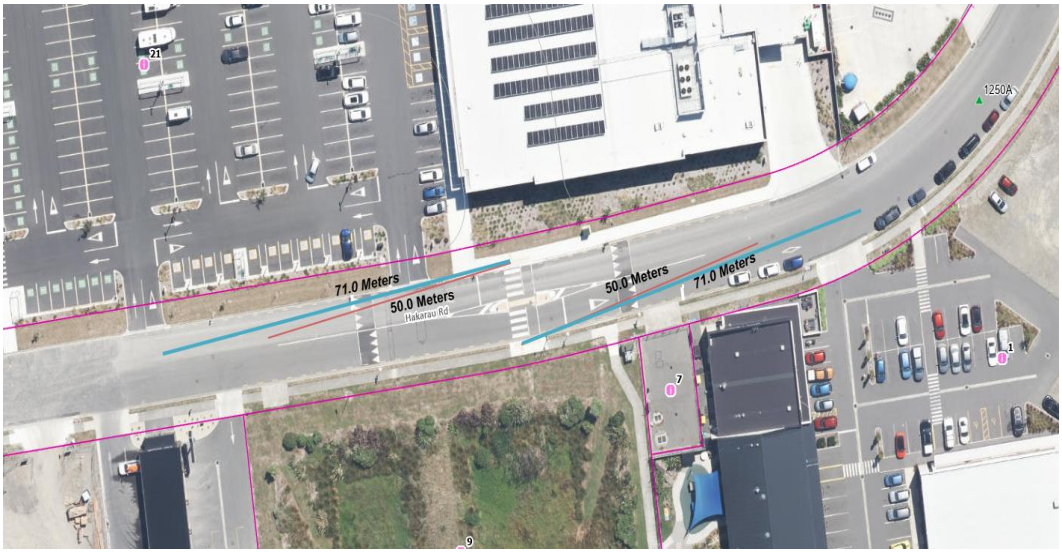


Figure 1: 50 m ASD Marked in Red, and 70 m CSD Marked in Blue at the pedestrian crossing

3.5. The original design for Hakarau Road, submitted with the development plans, included substantial lengths of No Stopping restrictions on both sides of the pedestrian priority crossing between No. 7 and No. 21:

- West of the pedestrian priority crossing, No Stopping restrictions extended 68m on the north side of the road and 55m on the south side of the road

- East of the pedestrian priority crossing, No Stopping restrictions extended 51m on the north side of the road and 58m on the south side of the road.

3.6. These no-stopping restrictions were included based on an expectation of greater heavy vehicle movements to/from side properties.

4. ISSUES AND OPTIONS

4.1. Council has received inquiries from members of the public regarding the suitability of the existing no-stopping restrictions and the availability of on-street parking in the area.

4.2. After consulting with the supermarket at no. 21 Hakarau Road, staff have confirmed that parked vehicles along the road do not interfere with heavy vehicle access to and from the supermarket.

4.3. The number of businesses has increased significantly since the reconstruction of the road in 2023 and will continue to increase over time. Most of these businesses have high parking demand and limited on-site parking for staff and customers.

*Figure 2: Parking restrictions recommended for removal (in **red**) and retention (in yellow)*

4.4. The Utilities & Roading Committee has the following options available to them:

4.5. Option One: Approve the revised No Stopping restrictions on both sides of the road around the pedestrian priority crossing

This option involves the Utilities & Roading Committee approving to reduce the length of existing No Stopping restrictions on both sides of Hakarau Road near the pedestrian crossing, as shown above in Figure 2.

This is the recommended option because it allows:

- Retaining sufficient visibility to meet both ASD and CSD requirements, ensuring pedestrian safety is not compromised.
- Providing approximately 16 additional on-street parking spaces to help meet the high demand generated by nearby businesses.
- Optimising the balance between pedestrian safety and parking availability in the area.

4.6. Option Two: Approve the revised No Stopping restrictions on only one side of the road around the pedestrian priority crossing

This option involves the Utilities & Roading Committee approving to reduce the length of existing No Stopping restrictions on only one side of the road around the pedestrian priority crossing.

This is not the recommended option as it provides only limited improvement to parking availability.

4.7. Option Three: Retain the Status Quo

This option would retain the existing No Stopping restrictions on both sides of Hakarau Road near the pedestrian priority crossing.

This is not the recommended option because the current extent of restrictions exceeds what is required to achieve the necessary ASD and CSD, unnecessarily limiting parking availability.

Implications for Community Wellbeing

There are implications on Community wellbeing by the issues and options that are the subject matter of this report.

These proposed restrictions maintain roading infrastructure to provide safe access for residents within the district and aim to improve on-street parking which improves access to businesses in the area.

4.8. The Management Team has reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū are not likely to be affected by, or have an interest in the subject matter of this report.

5.2. Groups and Organisations

There are not groups and organisations likely to be affected by, or to have an interest in the subject matter of this report.

Staff met with some (but not all) of the adjacent businesses in September 2025 to discuss on-street parking and heavy vehicle usage including the existing No Stopping restrictions. Heavy on-street parking demand was noted from customers and traffic associated with construction activities in the area. In particular, the Manager of the Woolworths grocery store confirmed that all heavy vehicle movements occur to/from the east and that the existing no-stopping restrictions are not necessary to enable these movements.

5.3. Wider Community

The wider community is not likely to be affected by, or to have an interest in the subject matter of this report.

The impacts of roadside management are considered to be localised and minor in nature. It is noted that no public consultation has been carried out with the wider community.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

There are financial implications of the decisions sought by this report. There are costs associated with removal of No Stopping lines along Hakarau Road.

The costs are estimated to be $1250 and can be accommodated within the Road Maintenance budgets (Pavement Marking GL 10.270.582.2500).

This budget is included in the Annual Plan/Long Term Plan.

6.2. Sustainability and Climate Change Impacts

The recommendations in this report are considered to be localised and minor in nature and will not have sustainability or climate change impacts.

6.3 **Risk Management**

There are risks arising from the adoption/implementation of the recommendations in this report.

These risks are considered very minor.

6.3 **Health and Safety**

There are minor health and safety risks arising from the adoption/implementation of the recommendations in this report.

Physical works will be undertaken through the District Road Maintenance Contract. The Road Maintenance contractor has a Health and Safety Plan and a SiteWise score of 100.

7. CONTEXT

7.1. **Consistency with Policy**

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. **Authorising Legislation**

Section 2 of the Land Transport Rule: Traffic Control Devices requires a Road Controlling Authority to "authorise and, as appropriate, install or operate traffic control devices."

7.3. **Consistency with Community Outcomes**

The Council's community outcomes are relevant to the actions arising from recommendations in this report. This report considers the following outcomes:

Social: a place where everyone can have a sense of belonging

- *Our community has equitable access to the essential infrastructure and services required to support community wellbeing.*

Economic: a place that is supported by a resilient and innovative economy

- *Enterprises are supported and enabled to succeed.*
- *Infrastructure and services are sustainable, resilient, and affordable. There is a safe environment for all.*

7.4. **Authorising Delegations**

The Utilities and Roading Committee has the delegated authority to approve No Stopping restrictions.

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	BAC-03-110 / 250723134948
REPORT TO:	UTILITIES & ROADING COMMITTEE
DATE OF MEETING:	November 2025
AUTHOR(S):	Heike Downie, Strategy & Centres Team Leader Don Young, Senior Engineering Advisor
SUBJECT:	Town Centre Upgrades Budget Criteria Approval
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report relates to the Town Centre Upgrades budget (PJ100359.000.5134), which is an existing regular Roading budget included in Council's Long Term Plan intended for improvements and infrastructure-related works that are required in the public realm alongside (or as a result of) private developments in the town centres, for which other budget does not exist. While town centre projects touch on multiple disciplines, most of the typical Town Centre Upgrades budget expenditure funds roading related physical infrastructure works in town centres (see paragraph 3.4 for previous works examples). Therefore, the Utilities and Roading Committee has a critical role in its approach.

1.2. Earlier this year, staff saw value in providing greater clarity of matters to be taken into consideration when evaluating the suitability of candidate projects for which to utilise of the Town Centre Upgrades budget, and to that end, developed draft criteria that would inform evaluation. This report follows a workshop held with the Utilities and Roading Committee in March 2025, the purpose of which was to:

- Discuss the overall direction, purpose, and scope of Town Centre Upgrades budget
- Discuss recommended criteria to underpin suitability of utilising the Town Centre Upgrades budget
- Discuss the process for approving Town Centre Upgrades budget expenditures

1.3. At the March Utilities and Roading Committee workshop, Committee members signalled comfort with the proposed criteria and requested that further consideration is given to the process applied for identifying projects and approving expenditure of this existing budget, including the role of elected members within this. Staff signalled that a decision-making report to the Committee to approve the criteria and further outline the process for approving budget expenditure would follow. That is the purpose of this follow-up report.

1.4. This report now seeks approval of the criteria workshopped with the Committee in March, which, in summary, are: amenity focus, road enhancements, pedestrian and alternative mode, and activation. Paragraph 4.3 provides more details. The benefit of confirming criteria for this budget going forward is that it enables a more holistic, considered and robust process for identifying and evaluating candidate projects, as well as for engaging with elected members on candidate projects, and ultimately for seeking approval to utilise the budget for individual initiatives in response to developments occurring in the town centres.

1.5. This report also clearly outlines the process for identifying candidate projects to utilise this budget for, for seeking the relevant approval and for ultimately implementing works. This

is detailed in paragraph 4.6 and involves existing business-as-usual elected member engagement and approval processes, strengthened by established criteria (subject to this report). It is noteworthy that the process importantly involves:

- Existing business-as-usual budget approval processes through Council's Long Term Plan and Annual Plan
- Strengthened direction and purpose of budget through approved criteria (sought through this report)
- Project identification via existing channels such as suggestions made by staff, Council, Committee or Community Boards
- Strengthened evaluation of individual project suggestions against approved criteria
- Existing business-as-usual budget allocation decision processes via the Committee's and/or Council's approval of budget spend for individual projects in light of how they meet the established criteria
- Existing business-as-usual design, endorsement and implementation processes, involving staff developing concepts and details, seeking relevant Community Boards' endorsement of details, designs and locations as relevant, and procuring and implementing projects.

Attachments:

i. Utilities and Roading Committee Workshop Presentation 18 March 2025 (TRIM: 250306037682)

2. RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 250723134948.

(b) **Approves** the criteria to underpin suitability of utilising the Town Centre Upgrades budget (PJ100359.000.5134), being: amenity focus, road enhancements, pedestrian and alternative mode, and activation – which are detailed further in paragraph 4.3.

(c) **Notes** the process that will be applied for identifying candidate projects, seeking the relevant approval and implementing works, as detailed in paragraph 4.6 which includes elected member engagement and decision-making steps.

3. BACKGROUND

3.1. The Town Centre Upgrades Budget (PJ100359.000.5134) is a regular Roading budget dedicated to fund town centre upgrades. While it is a Roading budget for administrative purposes, it does have holistic town centre enhancement application, noting however that historically, the bulk of the budget has been used for roading related infrastructure and works – hence the Utilities and Roading Committee's role in its purpose and approach.

3.2. The current Long Term Plan and Infrastructure Strategy includes this budget as follows:

- $50,000 in 2025/26
- $265,000 in 2026/27
- $300,000 in 2027/28
- $300,000 in 2030/31
- $300,000 in 2033/34
- $300,000 in 2036-37
- $300,000 in 2039-40

3.3. Council has included this budget in its Long Term Plan / Annual Plan for many years; typically, it is utilised to respond to opportunities for higher amenity infrastructure-related works that are required in the public realm alongside (or as a result of) private developments in our town centres, for which another budget does not exist. It is used to

actively create town centre amenity enhancements, traffic improvements and pedestrian and cyclist improvements. Historically, the budget has not intended to be assigned to any individual projects at the outset, but rather to be able to respond as opportunities emerged.

3.4. Some examples of projects this budget has been used for in the past include, but are not limited, to the following:

- Streetscape and pedestrian improvements at Durham Street implemented alongside the private development at the corner of High Street and Durham Street
- Streetscape and pedestrian improvements in Woodend town centre following the adoption of the Woodend Pegasus Area Strategy and the subsequent implementation project of developing a Woodend Town Centre Improvement Plan
- Pedestrian and amenity enhancements at Oxford town centre
- Partial contribution towards costs associated with the Rangiora two-way High Street project and amenity improvements
- Partial contribution towards costs associated with the Conway Lane development
- Pedestrian improvements at the laneway / thoroughfare south of Rangiora New World
- EV Charging Station installation in town centres

3.5. Using the Town Centre Upgrades budget in this way has enabled Council over many years to be agile and be able to respond to works that were unforeseen (for example, to enable improvements alongside private development as a response), exclusively in the District's town centres. It has helped to underpin positive town centre amenity, accessibility, vehicle and pedestrian circulation, community and economic outcomes by enhancing the look, feel and functionality of high-profile town centre spaces. Allowing accumulation of the budget has enabled the ability to fund larger town centre amenity, roading and streetscape works as required.

3.6. Currently, already well-established reporting and decision-making processes are followed when proposing utilisation of this budget for any particular project / works. This would typically include:

- Project discussion including budget considerations with Management Team as warranted depending on project scale and significance
- Project workshop(s) held with elected members (Council, Utilities and Roading Committee, Community Boards as relevant) which typically include discussion of costs and proposed / available budget (with Council and/or Utilities and Roading Committee)
- Review of reports by the Management Team, which include detailed discussion of project cost considerations and relevant / proposed budgets to utilise
- Elected member endorsement (from Community Boards as relevant) and decision-making on project details including approval of relevant budget spend (by Council and/or Utilities and Roading Committee)
- Usual procurement planning and contract processes for physical work

3.7. These steps are in addition to other business-as-usual decision-making processes, including Council's approval of the regular Town Centre Upgrades budget through Long Term Plan and Annual Plan processes.

4. ISSUES AND OPTIONS

4.1. Earlier this year, staff saw value in providing greater clarity of matters to be taken into consideration when evaluating the suitability of candidate projects for which to utilise of the Town Centre Upgrades budget, together with clearly setting out the largely existing business-as-usual process for utilising the budget. To that end, staff developed a set of criteria to underpin suitability of utilising the Town Centre Upgrades budget, and workshopped these with the Utilities and Roading Committee in March 2025. Attachment i provides the March 2025 Utilities and Roading Committee workshop presentation.

4.2. Slides 7 and 8 in attachment i set out the criteria discussed with the Committee. Gaining elected member buy-in into these assists in better defining the scope of the budget,

providing confidence and comfort that the budget is applied in a way endorsed by the Committee, and strengthening the process for seeking approval to utilise the budget for specific projects. Key considerations when developing criteria were that the budget is intended to fund town centre specific initiatives / works, it has holistic application to enhance amenity, functionality, activation and accessibility, it can have a cross-disciplinary focus, and it enables responding to works related / required due to private development.

4.3. The criteria discussed with the Utilities and Roading Committee, for which approval is now sought through this report, are:

- Amenity Focus: Enhance the look and feel of the town centre by investing in street trees, street furniture, paving, public art such as murals, and landscaping treatments. These elements will improve the visual and environmental appeal of town centre spaces.
- Road Enhancements: how the road corridor and car parking facilities function - parking markings, kerb and channel work, one-way streets, new build-outs to create safer intersections, and various traffic improvements. These initiatives will enhance road safety and efficiency, improving the functionality of road corridors and car parking facilities.
- Pedestrian and alternative mode: Improve the experience and safety of pedestrians by focusing on pedestrian movements, mobility, and accessibility. Increase accessibility and support non-vehicular modes with things like cycle and scooter stands, other end of trip facilities, and new pedestrian connections etc.
- Activation: Create lively, vibrant, and welcoming public spaces with street stages for events and play areas for social interaction. Incorporate participation-based design elements and infrastructure to activate town centre spaces.

4.4. In general, Committee members supported the criteria at the workshop and suggested some individual initiatives that could comfortably meet them, including for example town centre entrance treatments and intersection improvements.

4.5. At the March workshop, Committee members requested that further consideration is given to the project identification, evaluation, and decision-making process applied and to the steps involved in approving expenditure of this existing budget, including the role of elected members within this. This report now also outlines in detail the process used (and to be strengthened upon approval of the criteria going forward) for identifying candidate projects to utilise this budget for, for seeking the relevant approval, and for ultimately implementing works. It is noted that the process aligns largely with current business-as-usual reporting and decision-making processes, within which elected members are engaged at multiple points, including during critical overall budget approval, project approval, design, and cost approval points.

4.6. The project identification and decision-making process for utilising the Town Centre Upgrades budget involves:

- Budget approval:
  (a) Council approves Town Centre Upgrades budget through Long Term Plan / Annual Plan processes (as is currently the case)
- Criteria:
  (a) Utilities and Roading Committee confirms overall direction, purpose and scope for budget, by way of approving criteria for utilising Town Centre Upgrades budget (workshopped with the Committee in March and approval sought via this report)
- Project identification:
  (a) Suggestions for projects may come from staff, Council or Committees, or by resolution of Community Board (as they do currently)
- Project evaluation and budget allocation:

(a) Staff evaluate individual future projects against established criteria (subject to criteria approval via this report)
(b) Utilities and Roading Committee and/or Council approve individual projects that meet criteria, and approve related expenditure of the Town Centre Upgrades budget (as is currently the case - Council or Committee approve projects and budget spend)

- Design, endorsement and implementation:
  (a) Staff develop the concept and prepare details (as is currently the case)
  (b) Relevant Community Boards endorse the project details, design and locations as relevant (as is currently the case; typically, Community Boards endorse / approve concept plans)
  (c) Staff procure and implement the project (as is currently the case)

4.7. This process, strengthened by approved criteria with which to consider candidate projects, continues to protect the opportunity to be able to respond to external initiatives often triggered by private developments occurring in the town centre, as they arise. By establishing agreed criteria with the Committee, and then having proposals come before the Committee and/or Council for approval, and details before Community Boards for endorsement, as detailed in 4.6, elected member input is achieved in an efficient and robust manner, and within appropriate existing delegations. The developed and workshopped criteria to apply when evaluating individual projects for suitability is a valuable addition, and the evaluation outcomes will be reported to help underpin recommendations in future reports.

4.8. Option 1: The Utilities and Roading Committee approves the criteria for identifying projects that utilise the Town Centre Upgrades budget as outlined in 4.3 of this report and notes the project identification and decision-making process for utilising the budget as set out in 4.6. Approving criteria helps to provide clarity regarding matters to be taken into consideration when evaluating the suitability of candidate projects for which to utilise of the Town Centre Upgrades budget and strengthens the overall purpose of the budget. The largely existing business-as-usual process for utilising the budget, strengthened by the addition of criteria, is efficient and robust, involves several elected member engagement and decision-making points, and appropriately and efficiently utilises existing delegations. This option 'closes the loop' on discussions had with the Committee at the workshop held in March. **This is the recommended option.**

4.9. Option 2: The Utilities and Roading Committee could request amendments to the criteria and/or process, which would trigger an amended report to come back to the Committee for consideration at a future date.

4.10. Option 3: The Utilities and Roading Committee could choose not to approve criteria for utilising the Town Centre Upgrades budget altogether, and instead, seek that existing practices for identifying and utilising the budget continue. In practice, staff already consider the types of matters outlined in the proposed criteria when evaluating suitability for budget spend. However, having confirmed clear criteria with the Committee helps to strengthen this approach, and underpin rationale for budget utilisation in future reports to Council/Committee.

Implications for Community Wellbeing

There are no direct implications on community wellbeing by the issues and options that are the subject matter of this report, as this report addresses a process matter, as opposed to the merits or value of an individual budget or project.

4.11. The Management Team has reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū are not likely to be affected by, or have an interest in the subject matter of this report.

5.2. **Groups and Organisations**

There are no groups and organisations likely to be affected by, or to have an interest in the subject matter of this report, with the exception of the town centre development community. Developers of key town centre sites are likely to favour a Council approach to utilising its existing Town Centre Upgrades budget that enables outcomes of high amenity, connectivity and activation value in high profile town centre environments. It is widely recognised that what makes good town centres isn't just shops and offices, but that a greater emphasis on centre experiences, including a mix of activities, well designed public spaces and attractive environments, is increasingly important.

5.3. **Wider Community**

The wider community is not likely to be affected by, or to have an interest in the subject matter of this report as this report addresses a process matter, as opposed to the merits or value of an individual budget or projects. However, the wider community is likely to have an interest in ensuring Council's budgets and processes are utilised in efficient ways that ensure good outcomes are achieved. Previous significant engagement undertaken when developing Town Centre Strategies have demonstrated public support for investing in high amenity public spaces in our town centre environments.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. **Financial Implications**

There are no financial implications of the decisions sought by this report.

This budget is included in the Annual Plan/Long Term Plan as detailed in 3.2 of this report.

6.2. **Sustainability and Climate Change Impacts**

The recommendations in this report do not have sustainability and/or climate change impacts, as this report addresses a process matter, as opposed to the merits or value of an individual project.

6.3 **Risk Management**

There are no risks arising from the adoption/implementation of the recommendations in this report.

6.4 **Health and Safety**

There are no health and safety risks arising from the adoption/implementation of the recommendations in this report.

7. CONTEXT

7.1. **Consistency with Policy**

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. **Authorising Legislation**

Local Government Act 2002

7.3. **Consistency with Community Outcomes**

The Council's community outcomes are relevant to the actions arising from recommendations in this report, particularly:

- Public spaces are diverse, respond to changing demographics and meet local needs for leisure and recreation
- Our communities are able to access and enjoy natural areas and public spaces.
- Public spaces express our cultural identities and help to foster an inclusive society

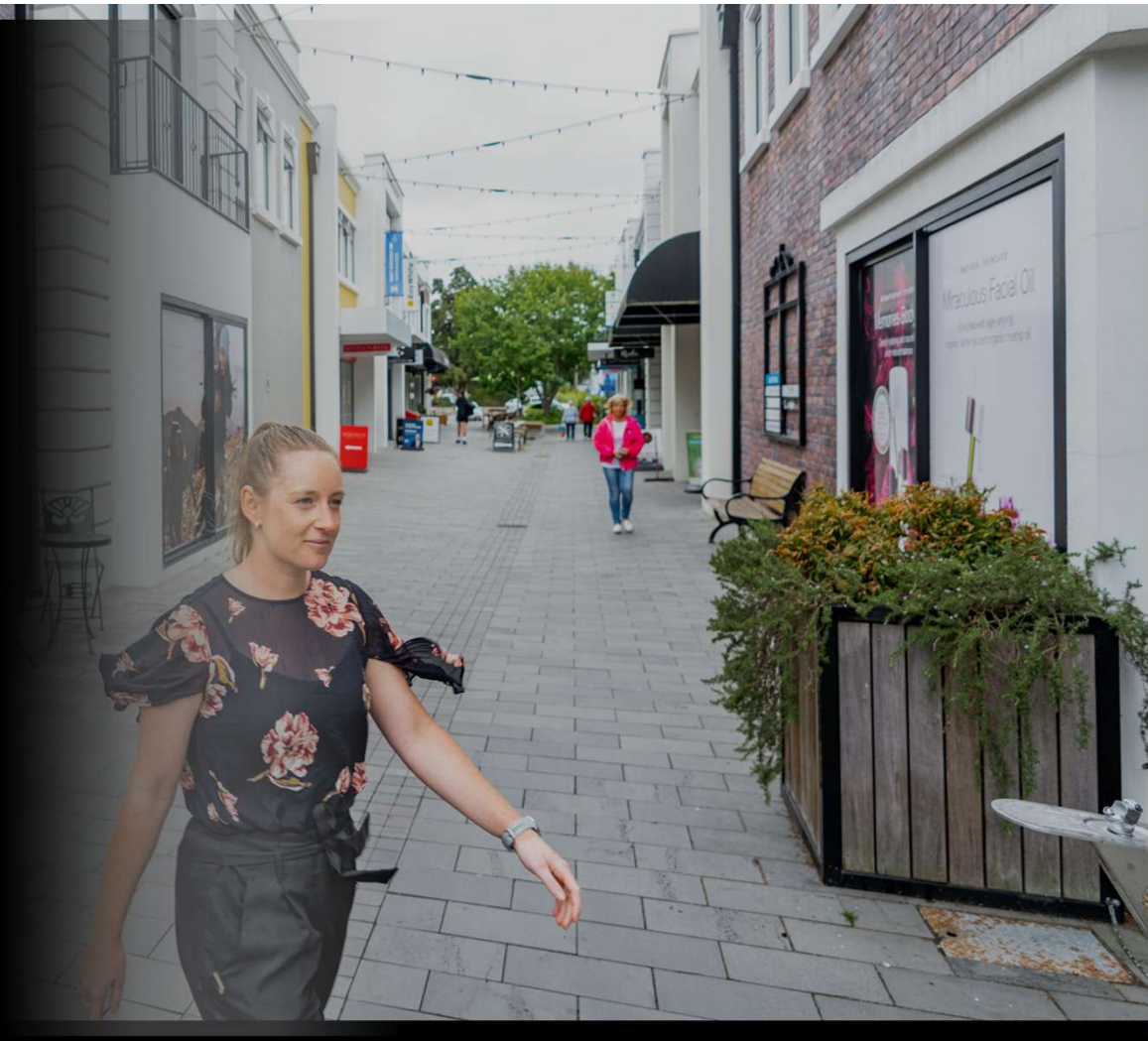
- Enterprises are supported and enabled to succeed
- There are sufficient and appropriate locations where businesses can set up in our District

7.4. Authorising Delegations

The Utilities and Roading Committee has the authority to implement tasks identified in the Long Term Plan or Annual Plan for the Committee's activities where financial provision has been made, together with developing goals and strategies for activities the Committee is responsible for. Approving criteria to support the appropriate identification and evaluation of candidate projects to utilise the Town Centre Upgrades budget, which is included in the Long Term Plan and Annual Plan, clarifies the budget's goals.

Approach for Town Centre Upgrades Budget

Utilities & Roading Committee Workshop



Heike Downie, Strategy & Centres Team Leader

Gina Maxwell, Business & Project Advisor

Don Young, Senior Engineering Advisor

18 March 2025

WAIMAKARIRI DISTRICT COUNCIL

Trim: 250306037682

Outline of Workshop

- Purpose of the Workshop
- Overview of Town Centre Upgrades Budget and Historic Use
- Proposed Criteria for Discussion
- Proposed Process for Budget Spend for Discussion
- Next Steps

Purpose of the Workshop

- Discuss overall **direction, purpose, and scope** of Town Centre Upgrades budget, and process to use it going forward to ensure a considered and consistent approach
- Discuss **proposed criteria** we could apply when considering candidate projects for the budget
- Discuss a **process for approving** budget expenditures going forward
- To be followed by a **report to confirm** the agreed-upon approach

Overview of Budget

Town Centre Upgrades Budget

(PJ100359.000.5134)

- Regular roading budget dedicated to town centre upgrades
- Budget sits in roading for administrative purposes, but has holistic town centre enhancement application
- A yearly allocation in previous LTPs, a three yearly allocation in current LTP
- Used to respond to opportunities for works required in the public realm alongside (or as result of) private developments in our town centres
- Used to actively create town centre amenity enhancements, traffic improvements and pedestrian and cyclist improvements
- Not intended to be assigned to any individual projects

Existing Budget in Annual Plan / Long Term Plan

- $20,000 in 2024/25
- $30,000 in 2025/26
- $265,000 in 2026/27
- $300,000 in 2027/28
- $300,000 in 2030/31
- $300,000 in 2033/34

Examples of historic use of budget

- Streetscape / pedestrian improvements at Durham Street implemented alongside development
- Woodend town centre improvements following Area Strategy
- Oxford town centre improvements
- Rangiora Two Way High Street and amenity improvements (partial contribution)
- Conway Lane development (partial contribution)
- Rangiora New World laneway improvements
- EV Charging Station installation in town centres

Using the budget in this way has enabled:

- Being able to be agile and have funds for works that were unforeseen (e.g. in response to private development), exclusively in town centres
- Positive town centre amenity, accessibility, vehicle and pedestrian circulation, community and economic outcomes by enhancing the look & feel and functionality of high profile, critical town centre spaces
- Allowing accumulation of budget (as it is a regular budget) to fund larger town centre amenity / roading / streetscape works, as needed

Possible Future Candidates for Budget

- Threshold treatment upgrades
- Cycle stands, bus shelters, scooter parking etc, or Footpath, kerb & channel upgrades
- Additional street furniture
- Enables public art or activation of key town centre spaces
- Enhancement of streetscape and landscaping features
- Streetscape enhancements at the BNZ corner
- South of High precinct
- South MUBA

Proposed Criteria for Discussion

Confirming with U&R a set of criteria to apply when considering the suitability of this budget for future town centre projects helps to:

- Define the scope of the budget
- Provide confidence and comfort that the budget is applied in way endorsed by the U&R
- Strengthen the process for seeking approval to utilise budget for specific projects

Key considerations:

- *Town centre specific initiatives / works*
- *Holistic application to enhance amenity, functionality, activation, accessibility*
- *Can have cross-disciplinary focus*
- *Enable responding to works related / required due to private development*

Proposed Criteria for Discussion

1. Amenity focus

How a place looks and feels

2. Traffic enhancements

How the road corridor and carparking facilities function

3. Pedestrian and alternative mode focus

How accessible and functional spaces are for non vehicular modes

4. Activation of spaces

How lively, vibrant, and welcoming town centre spaces are

Proposed Process for Budget Spend

Budget approval:

- Council approves Town Centre Upgrades budget through LTP/Annual Plan

Criteria and Process:

- U&R Committee confirm overall direction, purpose and scope for budget, criteria, and process (workshop today, report to follow)

Project Identification:

- Suggestions for projects may come from staff, Council or Committees, or by resolution of Community Boards

Project Evaluation and Budget Allocation:

- Staff evaluate individual future projects against established criteria
- U&R Committee approve individual projects that meet established criteria, and approve spend of Town Centre Upgrades budget

Design, Endorsement and Implementation:

- Staff develop the concept, prepare details
- Relevant Community Boards endorse the project details/design/location
- Staff procure and implement

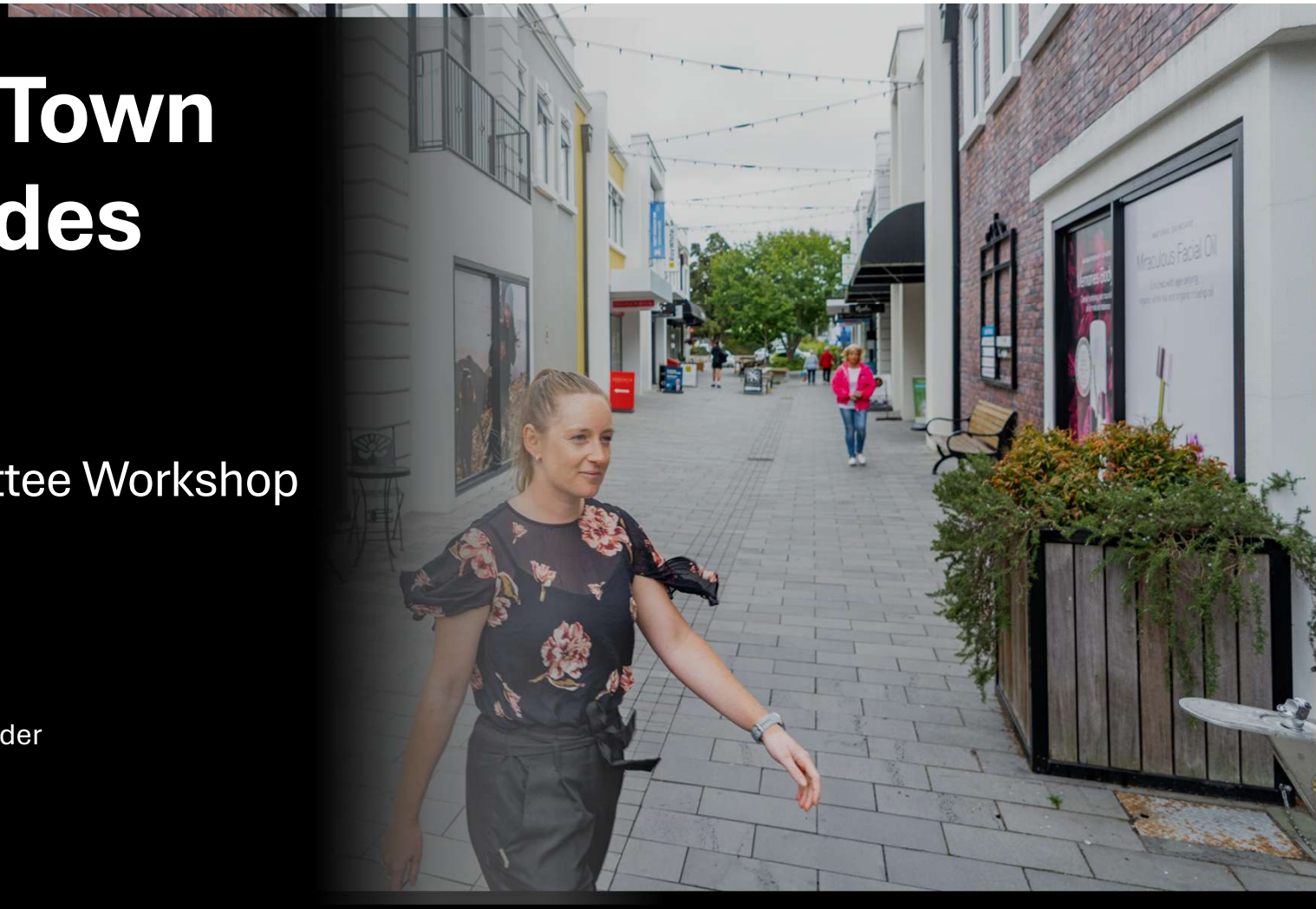
Next Steps

Report to Utilities & Roading Committee to confirm criteria and approach discussed today (April/May 2025)

Apply criteria and process as required going forward

Approach for Town Centre Upgrades Budget

Utilities & Roading Committee Workshop



Heike Downie, Strategy & Centres Team Leader

Gina Maxwell, Project Support Coordinator

Don Young, Senior Engineering Advisor

18 March 2025

WAIMAKARIRI DISTRICT COUNCIL

Trim: 250306037682

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR INFORMATION

FILE NO and TRIM NO:	SEW 12 / 251106211871
REPORT TO:	UTILITIES & ROADING COMMITTEE
DATE OF MEETING:	25 November 2025
AUTHOR(S):	Caroline Fahey, Water & Wastewater Asset Manager
SUBJECT:	Eastern District Sewer Scheme and Oxford Sewer Scheme Annual Compliance Reports 2024 – 25
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. The purpose of this report is to update the Utilities & Roading Committee on the consent compliance performance of the Eastern District Sewer Scheme (EDSS) and Oxford Sewer Scheme for the 2024-25 compliance year (1 July 2024 to 30 June 2025).

1.2. The Eastern District Sewer Scheme (EDSS) Ocean Outfall operates under resource consent CRC041162.2, in conjunction with twelve other consents that enable the wastewater scheme's operation. Consent compliance for monitoring data of this nature is determined on two levels:

- Does the monitoring data comply with any environmental limits specified in the consent conditions.
- Has the frequency of monitoring met the consent requirements.

1.3. Full compliance was achieved for all EDSS consent conditions relating to environmental limits during the 2024-25 monitoring period, with the exception of low dissolved oxygen levels measured at the Woodend and Rangiora WWTPs. While this did not comply, it did not affect the overall performance of the wastewater treatment systems and had no environmental impact on the receiving environment. There were also a couple of complaints related to odour/sludge management received for Kaiapoi Wastewater Treatment Plant, however this did not impact on consent compliance.

1.4. The Oxford Sewer Scheme is operated under three Canterbury Regional Council (CRC) resource consents being CRC961013, CRC144561 and CRC184787. These consents do not require an annual compliance report however a report has been prepared as good practice.

1.5. Full compliance was achieved for all Oxford scheme consent conditions relating to environmental limits during the 2024-25 monitoring period, except there were some non-compliances relating to temporary overflow of the wet weather holding pond which caused an exceedance of the 10-day hydraulic retention time limit and daily limit for effluent discharge from the plant on one day during the May 2025 weather event. There was also an issue with exceedances of irrigation application depths due to inaccurate monitoring data. These did not affect the overall performance of the wastewater treatment system and had no environmental impact on the receiving environment.

1.6. Environment Canterbury (ECan) are currently reviewing the Annual Compliance Monitoring Reports for the 2024-25 period. A compliance report will be issued by ECan following the completion of their review.

Attachments:

i. Eastern District Sewer Scheme – Annual Compliance Monitoring Report 2024-2025 (TRIM 250630118298)
ii. Oxford Sewer Scheme – Annual Compliance Monitoring Report 2024-2025 (TRIM 250729139412)

2. RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 251106211871.

(b) **Notes** that full compliance was achieved for all Eastern District Sewer Scheme (EDSS) Ocean Outfall consent conditions relating to environmental limits during the 2024-25 monitoring period, with the exception of low dissolved oxygen levels measured at the Woodend and Rangiora WWTPs, which did not impact on the overall performance of the treatment system and had no environmental impact on the receiving environment.

(c) **Notes** that full compliance was achieved for the Oxford Sewer Scheme consent conditions relating to environmental limits during the 2024-25 monitoring period, except there were some non-compliances relating to temporary overflow of the wet weather holding pond during the May 2025 weather event and exceedances of irrigation application depths due to inaccurate monitoring data. These did not affect the overall performance of the wastewater treatment system and had no environmental impact on the receiving environment.

(d) **Notes** that Environment Canterbury are currently reviewing the Annual Compliance Monitoring Reports for the 2024-25 period and a compliance report will be issued by ECan following the completion of their review

(e) **Circulates** this report to all Community Boards for their information.

(f) **Circulates** a copy of this report to Te Ngāi Tūāhuriri Rūnanga and Te Kōhaka o Tūhaitara Trust for their information.

3. BACKGROUND

3.1. The purpose of this report is to update the Utilities and Roading Committee on the consent compliance performance of the Eastern District Sewer Scheme and Oxford Sewer Scheme for the 2024-25 reporting year.

Eastern District Sewer Scheme

3.2. The Rangiora, Kaiapoi, Woodend and Waikuku Beach Wastewater Treatment Plants (WWTP's) discharge into a pipeline (the Ocean Outfall), that discharges into Pegasus Bay between Pines/Kairaki Beach and Woodend Beach, approximately 1.5km off the coast. These WWTPs and the Ocean Outfall comprise the Eastern District Sewer Scheme (EDSS). Figure 1 below geographically shows the layout of the scheme. The EDSS operates under a number of resource consents from the Canterbury Regional Council. The main focus of this report is CRC041162.2, the consent that authorises the discharge of treated effluent into the coastal marine environment from the Ocean Outfall.

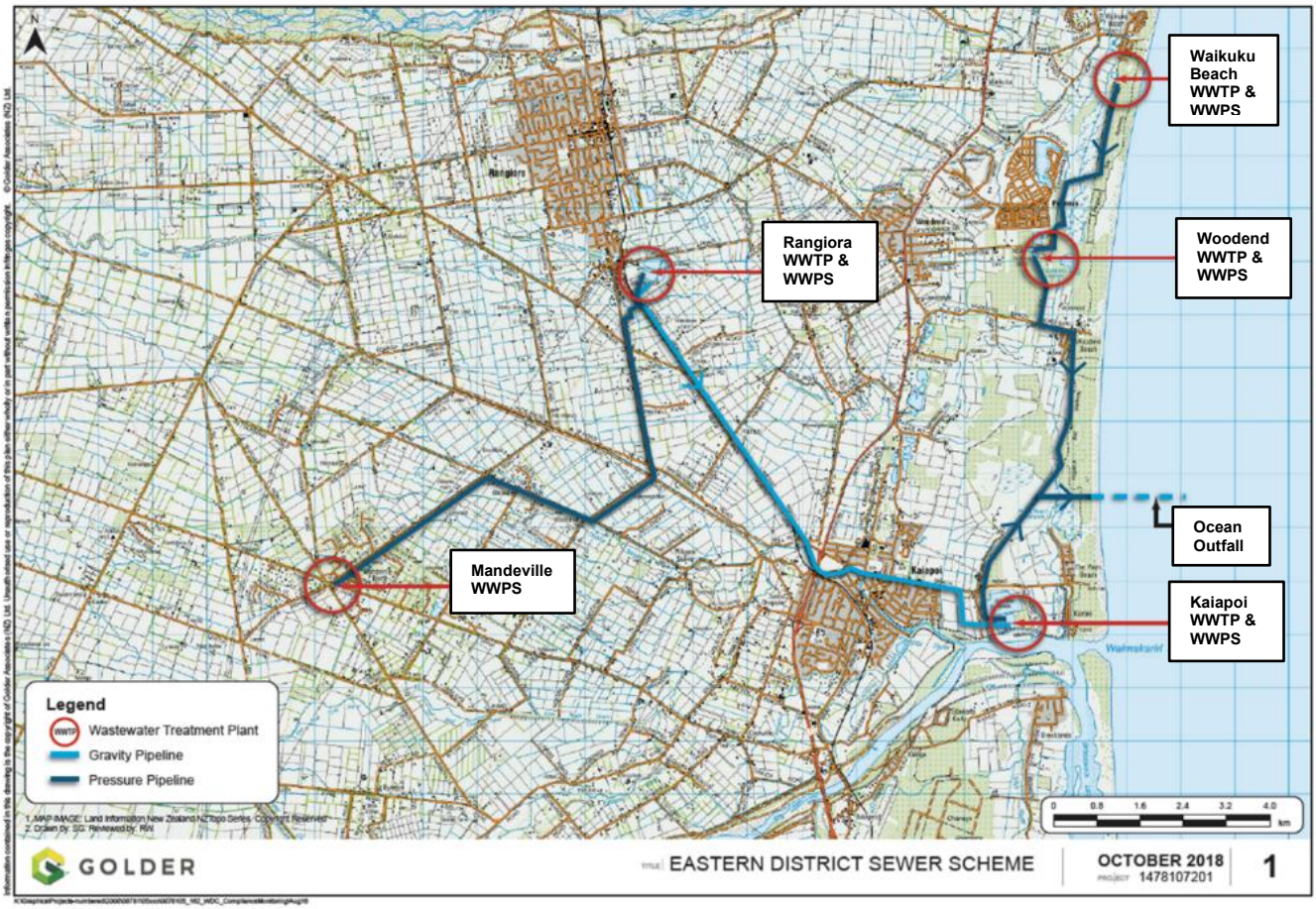


Figure 1: Eastern District Sewer Scheme Map

Oxford Sewer Scheme

3.3. The Oxford Sewer Scheme operates a wastewater treatment plant (WWTP) at Oxford, which serves just over 900 properties. The WWTP is located on the north side of the Eyre River on High Street with an irrigation disposal field location on the south side of the Eyre River on Woodstock Road. Figure 2 below shows these locations geographically.

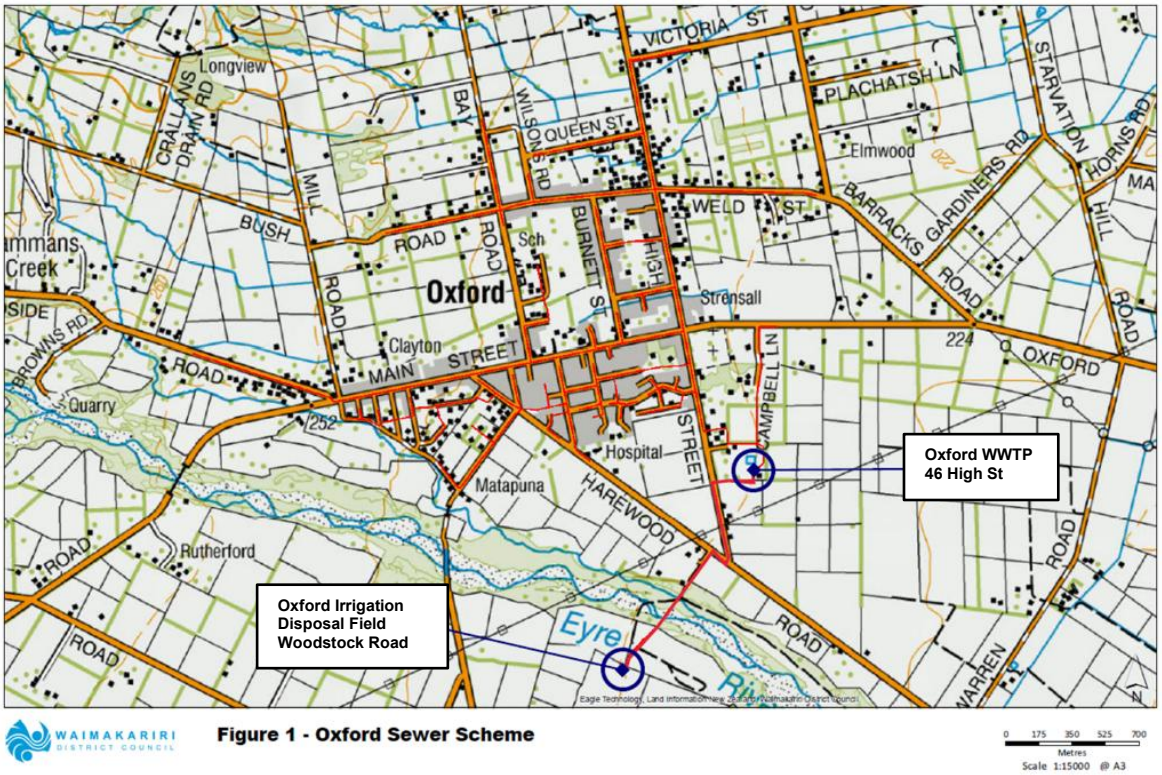


Figure 2: Oxford Sewer Scheme Map

4. ISSUES AND OPTIONS

4.1. Eastern District Ocean Outfall

4.1.1. Table 1 below provides a summary of compliance for each consent utilised to operate the Eastern District Ocean Outfall. Full compliance was achieved for all the consents for the 2024-25 monitoring period relating to environmental limits, with the exception of non-compliances relating to low dissolved oxygen levels at the Woodend and Rangiora WWTPs. There were also a couple of complaints related to odour/sludge management for the Kaiapoi WWTP.

Table 1: Summary of Eastern District Ocean Outfall Consent Compliance 2024-25

Consent	Activity	Compliance
CRC041162.2	To discharge treated sewerage effluent into coastal marine area from sub-aqueous ocean outfall	Compliant – 2 complaints received about odour from Kaiapoi wastewater treatment plant, all appear to now be resolved.
CRC041049	To discharge treated sewage effluent to the infiltration wetland and to ground water via seepage at the Kaiapoi WWTP	Full compliance
CRC168391	To discharge treated sewage effluent via seepage onto land (Woodend)	Full compliance
CRC145027	To discharge dewatered sludge removed from a wastewater pond to land (Rangiora)	Full compliance
CRC031724	To discharge groundwater from subsoil drains into the marine area of Jockey Baker Creek	Full Compliance (no discharge)

CRC168388	To discharge contaminants to air (Woodend)	Non – compliance, low Dissolved Oxygen levels in each pond other than Settlement Pond 1, below the required minimum environmental limit. Pond performance being further investigated.
CRC950610	To discharge contaminants to air (Kaiapoi)	Full Compliance
CRC962560	To discharge contaminants to air (Waikuku)	Full Compliance
CRC030917	To discharge contaminants, via seepage, from Rangiora STP to land	Full Compliance
CRC041163	For the erection, placement and maintenance of an ocean outfall pipeline and temporary structures, including a trestle structure and sheet piling for the purpose of constructing an ocean outfall, within the coastal marine area	Full Compliance
CRC154176	To discharge contaminants to land (Kaiapoi)	Full Compliance
CRC168390	To use land for storing, treating and discharging human effluent (Woodend)	Full Compliance
CRC173124	To discharge contaminants (odour) to air (Rangiora)	Mostly compliant. Pond 3 oxidation low DO during July and August 2024 should now be addressed.

4.2. Eastern District Scheme non-compliances

Complaints

4.2.1. CRC041162.2 Condition 30

"The consent holder shall maintain and keep a complaints register for all aspects of all operations in relation to the discharge into the ocean. The register shall detail the date, time and type of complaint, cause of the complaint, and action taken by the Consent Holder in response to the complaint. The register shall be available to the Canterbury Regional Council at all reasonable times."

4.2.2. There were two complaints related to odour/sludge management for the Kaiapoi wastewater treatment plant dated 30 October 2024 and 4 December 2024 during the 2024/25 monitoring period. These coincided with periods where there was a lack of wind which potentially caused some odour issues to develop. Lime was applied to the infiltration wetland during that period to mitigate the odour issues.

4.2.3. These complaints appears to be one-off events and are not ongoing. While two complaints were received, compliance with Condition 30 was still achieved as this condition only requires complaints and actions taken by the consent holder to be recorded.

Low Dissolved Oxygen

4.2.4. CRC168388 – Conditions 5 & 6

5. The dissolved oxygen concentration of effluent in the aeration ponds (1A, 1B and 1C) and settling ponds (2A and 2B) as shown in Plan CRC168388A attached to this consent shall:

a) Be measured in each pond on one day in every seven day period;
b) Be maintained at levels of no less than two grams per cubic metre, based on the ten percentile of annual results, between the hours of 11am and 2pm; and
c) Not have a concentration of less than two grams per cubic metre for more than three consecutive measurements in accordance with condition (5)(a).

6. The consent holder shall maintain a record of dissolved oxygen measurements in accordance with condition (5)(a) which shall include the following information:

a) The date and time the measurements were taken; and
b) Water temperature at the time the measurements were taken; and
c) Dissolved oxygen concentrations; and
d) Identification of the pond in which the measurements were taken.

4.2.5. Low dissolved oxygen levels were measured in the Woodend wastewater treatment ponds. This is considered likely due to a faulty meter and failed calibration issue or potentially due to low aeration of the ponds during the second half of 2024. These non-compliant samples indicate likely ongoing issues with the optical meter sampling location or pond aeration levels and performance which may require further investigation.

4.2.6. Staff are investigating the WWTP pond performance through increased sampling and monitoring and are also looking at upgrading DO measuring equipment to ensure that accurate data is being collected.

4.2.7. CRC173124 – Condition 2

The wastewater treatment ponds and aeration basin shall be operated so that the dissolved oxygen concentrations of the wastewater in the ponds are maintained at levels of no less than two grams per cubic metre, based on the ten percentile of annual results during the hours of measurement as stated in Condition 3.

4.2.8. Low dissolved oxygen levels were measured in the Rangiora wastewater treatment pond 3. This is considered likely due to poor aeration within that pond during that time which has now been addressed with the aeration upgrade that was carried out at the Rangiora WWTP aeration basin in September 2024 which significantly improved the performance of the downstream oxidation ponds. All DO levels measured after this date met the compliance limit of 2mg/L.

4.3. Oxford Sewer Scheme

4.3.1. Table 2 provides a summary of compliance for each consent utilised to operate the Oxford Sewer Scheme. Full compliance was achieved for all conditions relating to environmental limits during the 2024-25 monitoring period. There were some non-compliance relating to temporary overflow of the wet weather holding pond which caused an exceedance of the 10-day hydraulic retention time limit and daily limit for effluent discharge from the plant on one day during the May 2025 weather event. There was also an issue with lack of monitoring data to clearly demonstrate that the depth limit for effluent application at the irrigation field had been achieved for certain periods.

Table 2: Summary of Oxford Sewer Scheme Consent Compliance 2024-25

Consent	Activity	Compliance

CRC961013	To discharge contaminants to air	Fully compliant
CRC144561	Land use consent for the establishment of a sewage storage basin	Non-compliant. The holding pond spilled over on 4 and 5 May 2025 and the hydraulic retention 10-day timeframe limit was breached following that rainfall event.
CRC184787	To discharge contaminant into land to water	Mostly compliant. The daily volume discharged exceeded the consent limit of 1,382 m3/day on 6 May 2025. An issue with SCADA recording of effluent application depth to land occurred during November 2024 and June 2025, which has been subsequently corrected. Recorded effluent application depth to land outside of these dates is mostly compliant.

4.4. Oxford Sewer Scheme non-compliances

Wet weather holding pond issues

4.4.1. CRC144561 Conditions 12(b) and 13

12(b) The spillway incorporated into the design for the Wet Weather Holding Pond shall be used only in the event of a catastrophic 1 in 100 year rainfall event.

13. The Wet Weather Holding Pond labelled on Plan CRC144561A shall be used for storing diluted municipal wastewater and operated in accordance with the Site Management Plan (Appendix A) including, but not restricted to, the following requirements:

a. Wastewater held within the Wet Weather Holding Pond shall be drained back to the plant for secondary treatment as soon as practicable once influent flows recede to below 16 litres per second to the plant.

b. The consent holder shall ensure that hydraulic retention times for wastewater stored within the Wet Weather Holding Pond shall not exceed 10 days as far as practicable. (Hydraulic retention times will vary with season, groundwater levels, precipitation events, and plant operational conditions).

c. The Wet Weather Holding Pond shall be cleaned after each use to remove any accumulated solids.

4.4.2. Temporary overflow of the wet weather holding pond occurred on 4 and 5 May 2025 (resulting in a total overflow volume of 228.5m^3) due to the rain event in May 2025. The overflow was contained within the WWTP site.

4.4.3. The holding pond fills while it is raining and does not drain immediately after. Discharge only commences when inflow into the plant returns to normal. Even though the rain event was not calculated to be a significant rain event (i.e. ~1 in 2.7 year event with a total of 86mm of rainfall spread over a couple of days), due to the inflow from the upstream Oxford reticulation remaining elevated for a period of time after the rain event, it took a while for the pond to drain which resulted in the exceedance of the 10-day hydraulic retention time limit. This was exceeded by 7 days (17 days in total) in this event.

4.4.4. Staff consider that going forward, with the effects of climate change, the system will be more likely to experience similar patterns where multiple events occurring in close succession could lead to more likely future occurrences of the 10-day hydraulic retention period being exceeded. There is a limitation to how quickly the holding pond is able to drain down which is directly linked to the existing capacity of the WWTP.

Exceedance of discharge volume

4.4.5. CRC184787 Condition 3

The volume of effluent discharged shall not exceed 1,382 cubic metres per day, and a maximum annual volume of 228,125 cubic metres between 1 July and the following 30 June.

4.4.6. The daily volume discharged exceeded the consent limit of 1,382 m^3/day on 6 May 2025, with a single peak daily discharge of 1,389.7m^3 on that day, which was the only exceedance during the 2024/25 year. This related to the May 2025 rain event.

4.4.7. Staff are investigating whether the WWTP operation can be further optimised to prevent such exceedances during wet weather event. Acknowledging that there is a limit to the existing hydraulic capacity of the plant to cope with the inflow.

Irrigator Issues

4.4.8. CRC184787 Condition 13

The depth of effluent application on the primary block identified on Plan CRC184787B, attached to this consent shall not exceed 22 millimetres per day. The depth of effluent irrigation on the secondary and tertiary blocks identified on plan CRC184787B shall not exceed 10 millimetres per day.

4.4.9. There was an issue with monitoring data collected during November 2024 and June 2025 that resulted in exceedances to the effluent discharge application depth to land. This was deemed to be an issue with the monitoring data as opposed to actual exceedance. Recorded effluent application depths outside of these dates were mostly compliant.

4.4.10. The effluent discharge application depth to land is a calculation based on discharged flow and the irrigator's position information. For the periods where exceedances have been identified, it was observed that the position sensor was not providing accurate information which resulted in an overstating of the depths being discharged. This has now been corrected.

4.4.11. There were several improvements made to the Oxford irrigator site this financial year to improve compliance. Irrigator 1 was replaced (due to being at the end of useful life) to increase reliability and also flow metering installed to each of the 2 irrigators which provided more accurate flow information. There was also an upgrade to the SCADA system which improved the ability to monitor the

performance of the irrigators and provide more accurate data to calculate the depths of effluent applied to land.

Implications for Community Wellbeing

4.5. Despite non-compliances there are no known implications on community wellbeing by the issues and options that are the subject matter of this report.

4.6. The Management Team has reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū will be interested in the findings of the Ocean Outfall Compliance Report 2024/25, due to their relationship with the coastal area used for kai moana/mahinga kai gathering. The Iwi Management Plan specifically opposes the ocean outfall and advocates for a culturally sustainable alternative to discharging wastewater to the sea. It identifies Pegasus Bay, where the ocean outfall is located, as one of the areas immensely significant for mahinga kai and considers eliminating these wastewater discharges as a priority for tāngata whenua. The recommendations of this report include circulation of this report and the attachments to Te Ngāi Tūāhuriri Rūnanga for their information.

5.2. Groups and Organisations

Council staff meet regularly with residents adjacent to the Woodend WWTP, who are interested in operations and performance of this plant. A copy of the Annual Compliance Monitoring Report can be made available to them for information purposes.

Te Kōhaka o Tūhaitara Trust manages the Tūhaitara Coastal Park where the ocean outfall is located.

There are no other groups and organisations likely to be affected by, or to have a direct interest in the subject matter of this report. There has been no discussions or consultation with any group as part of this compliance monitoring report.

5.3. Wider Community

The wider community is not likely to be affected by, or to have an interest in the subject matter of this report.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

There are not financial implications of the decisions sought by this report. However it should be noted that on-going non-compliances can result in increased monitoring costs and action being taken against the Council (i.e. abatement notice). Such instances can result in loss of confidence from the public as well as adverse effect to Council's reputation. Approximately $100,000 is being allowed for in the budgets for monitoring of the Ocean Outfall.

6.2. Sustainability and Climate Change Impacts

The recommendations in this report do have sustainability and/or climate change impacts.

Staff consider that going forward, with the effects of climate change, the Oxford WWTP system will be more likely to experience similar patterns where multiple events occurring in close succession could lead to more likely future occurrences of the 10-day hydraulic retention period of the storage pond being exceeded.

6.3 **Risk Management**

There are risks arising from the adoption/implementation of the recommendations in this report.

The Oxford WWTP discharge consent is due to expire in August 2031 which presents a risk for Council if not proactively addressed. This risk is being managed through a wider project looking at the wastewater strategy for the Western Waimakariri District.

6.3 **Health and Safety**

There are not health and safety risks arising from the adoption/implementation of the recommendations in this report.

7. CONTEXT

7.1. **Consistency with Policy**

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. **Authorising Legislation**

The Local Government Act and Water Services Act are relevant in this matter.

7.3. **Consistency with Community Outcomes**

The Council's community outcomes are relevant to the actions arising from recommendations in this report. Managing the Council's Eastern District Sewer Scheme and Oxford Wastewater Scheme in a manner that is compliant with our Canterbury Regional Consents ensures:

- Land use is sustainable; biodiversity is protected and restored.
- The natural and built environment in which people live is clean, healthy and safe.
- Infrastructure and services are sustainable, resilient, and affordable.
- Our community has equitable access to the essential infrastructure and services required to support community wellbeing.

7.4. **Authorising Delegations**

This report is for information only as the compliance reports have already been submitted to Environment Canterbury for review, therefore no actions requiring delegated authority are recommended.

REPORT

Eastern Districts Sewer Scheme – Annual Compliance Monitoring Report 2024- 2025

Waimakariri District Council

Date 28 August 2025

Table of Contents

LIST OF ABBREVIATIONS AND UNITS

ammoniacal-N	ammoniacal nitrogen
BODs	five-day biochemical oxygen demand
˚C	degrees Celsius
cfu/100 mL	colony forming units per 100 mililitres
CRC	Canterbury Regional Council
DIN	dissolved inorganic nitrogen
DO	dissolved oxygen
DRP	dissolved reactive phosphorus
EDSS	Eastern Districts Sewer Scheme
EDS	Eastern Districts Sewer
E. coli	*Escherichia coli*
ESR	Institute of Environmental Science and Research
g/m^3	grams per cubic metre
iu	infectious units
km	kilometre
LOESS	local polynomial regression fitting
L/s	litres per second
MDL	method detection limit
m	metres
mL	millilitres
m^3	cubic metres
m^3/day	cubic metres per day
N	number of samples
nitrate-N	nitrate nitrogen
NIWA	National Institute of Water and Atmospheric Research
PCB	polychlorinated biphenyls
PAH	polycyclic aromatic hydrocarbons
pfu	plaque forming units
SCADA	supervisory control and data acquisition

TN	total nitrogen
TP	total phosphorus
TSS	total suspended solids
UV	ultraviolet
WDC	Waimakariri District Council
WWTP	wastewater treatment plant

1. INTRODUCTION

1.1. Background

Waimakariri District Council (WDC) operates wastewater treatment plants (WWTPs) at Rangiora, Kaiapoi, Woodend and Waikuku Beach, located in the eastern part of the district. In 2006, the treatment facilities at each WWTP were upgraded, with the flows from these four locations combined for discharge to the coastal marine environment via an ocean outfall located in Pegasus Bay. The upgraded system and ocean outfall, shown in Figure 1, is known as the Eastern District Sewer Scheme (EDSS).

The EDSS operates under a number of resource consents from Canterbury Regional Council (CRC) also known as Environment Canterbury (ECan), which are listed in Table 1 along with their respective reporting requirements and level of compliance for the 2024/25 monitoring year.

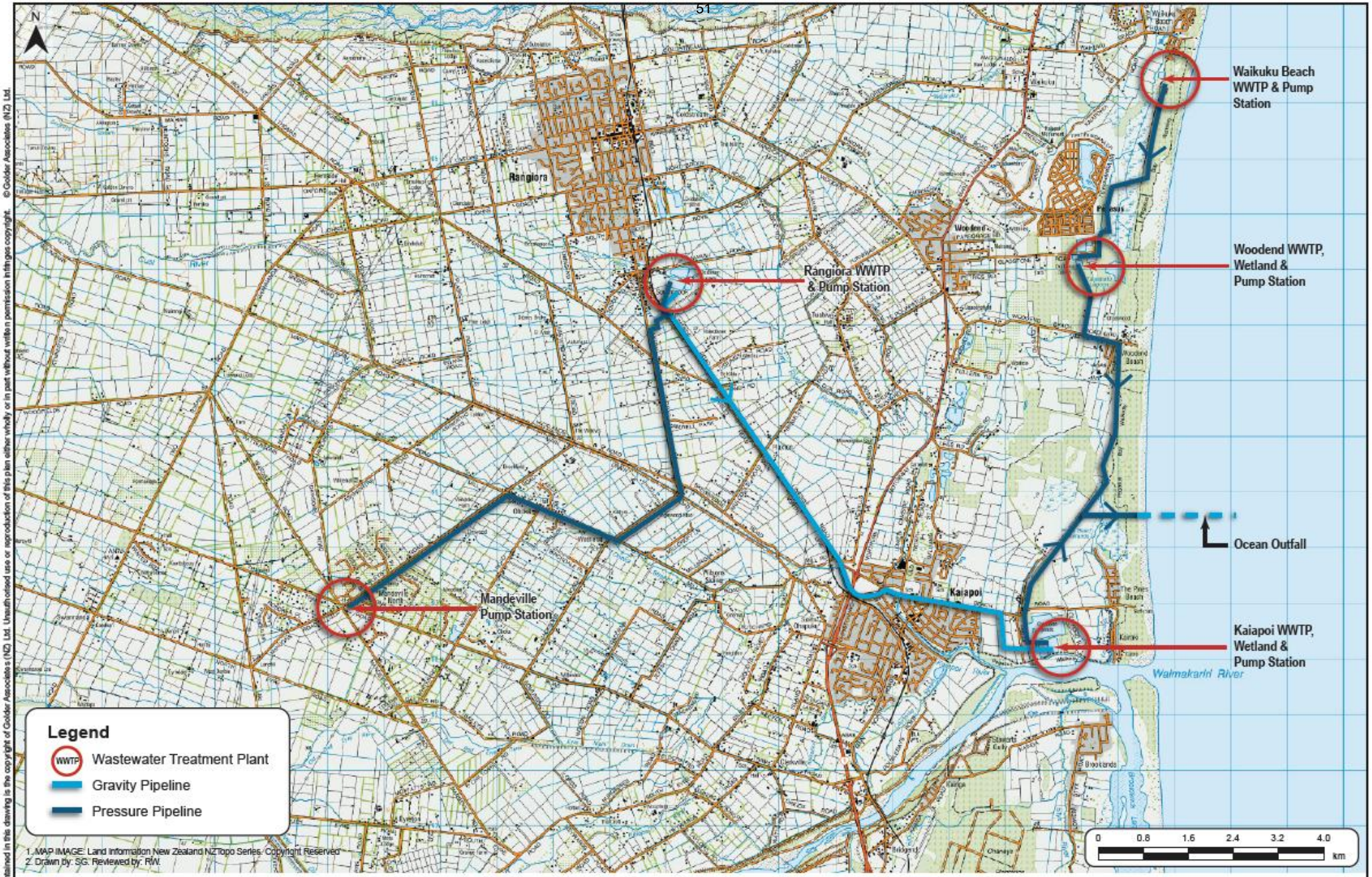
Table 1: Eastern District Sewer Scheme Resource Consents

Consent	Activity	Reporting	Compliance
CRC041162.2	To discharge treated sewerage effluent into coastal marine area from sub-aqueous ocean outfall	Refer to Section 2.0 of this report	Compliant – 2 complaints received about odour from Kaiapoi wastewater treatment plant, all appear to now be resolved.
CRC041049	To discharge treated sewage effluent to the infiltration wetland and to ground water via seepage at the Kaiapoi WWTP	Refer to Section 3.0 of this report	Full compliance
CRC168391	To discharge treated sewage effluent via seepage onto land (Woodend)	Refer to Section 4.0 of this report	Full compliance
CRC145027	To discharge dewatered sludge removed from a wastewater pond to land (Rangiora)	Refer to Section 6.0 of this report	Full compliance
CRC031724	To discharge groundwater from subsoil drains into the marine area of Jockey Baker Creek	Refer to Section 5.0	Full Compliance (no discharge)
CRC168388	To discharge contaminants to air (Woodend)	Refer to Section 8.0	Non – compliance, low Dissolved Oxygen levels in each pond other than Settlement Pond 1, below the required minimum environmental limit. Pond performance being further investigated.

CRC950610	To discharge contaminants to air (Kaiapoi)	No reporting required No Events to Report	Full Compliance
CRC962560	To discharge contaminants to air (Waikuku)	No reporting required No events to Report	Full Compliance
CRC030917	To discharge contaminants, via seepage, from Rangiora STP to land	No reporting required	Full Compliance
CRC041163	For the erection, placement and maintenance of an ocean outfall pipeline and temporary structures, including a trestle structure and sheet piling for the purpose of constructing an ocean outfall, within the coastal marine area	No reporting required	Full Compliance
CRC154176	To discharge contaminants to land (Kaiapoi)	No reporting required	Full Compliance
CRC168390	To use land for storing, treating and discharging human effluent (Woodend)	No reporting required	Full Compliance
CRC173124	To discharge contaminants (odour) to air (Rangiora)	Section 7.0	Mostly compliant. Pond 3 oxidation low DO during July and August 2024 should now be addressed.

1.2. Report Scope

The scope of this report fulfils the reporting requirements of consents issued to WDC by ECan for the purpose of managing and administering the EDSS, these include; CRC041162.2, CRC041049, CRC168391, CRC173124 and CRC145027. These consents require an annual monitoring report be submitted to Environment Canterbury. The reports are required to be submitted variously between 31 July and 31 August each year. However, a combined report for all five resource consents with a due date of 31 August has been agreed between WDC and ECan. Annual reporting for CRC168388 was included from the 2023/24 year to ensure ongoing monitoring is undertaken and reported every year. Figure 1 below shows the location of the District Ocean Outfall pipeline and individual WWTP sites.



1. MAP IMAGE: Land Information New Zealand NZTopo Series. Copyright Reserved
2. Drawn by: SG. Reviewed by: RW.

GOLDER

TITLE EASTERN DISTRICT SEWER SCHEME

OCTOBER 2018
PROJECT 1478107201

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2. CRC041162.2 – DISCHARGE FROM OCEAN OUTFALL

2.1. Overview

Consent compliance for the period 1 July 2024 through to 30 June 2025 ('the monitoring period'), has been assessed by WDC. This report includes comparison with data reported in previous monitoring periods, where applicable, reported under the EDSS resource consents.

2.2. Condition 2 – Discharge Volume and Rate

Condition 2 states:

"The discharge shall not exceed a rate of 660 litres per second or 57,000 cubic metres per day."

Discharge volumes to the ocean outfall were recorded by a supervisory control and data acquisition (SCADA) system, which transmits via a broadband connection to an InTouch data visualisation system. This system is more reliable than the radio link previously used to download outflow data. The meter is also read manually on at least a monthly basis to provide a backup data record in the event the SCADA system fails.

Daily discharge volume for the 2024/25 period is plotted in Figure 2 and instantaneous flow is plotted in Figure 3. The raw data can be viewed in the spreadsheet in APPENDIX A1 *"Ocean Outfall Flow Analysis Figures"* attached. The spreadsheet and graphs show that total discharge volumes did not exceed 38,394 m^3/day (this was the highest discharge flow recorded during the year, on 3 May 2025) and remained well below the consent limit.

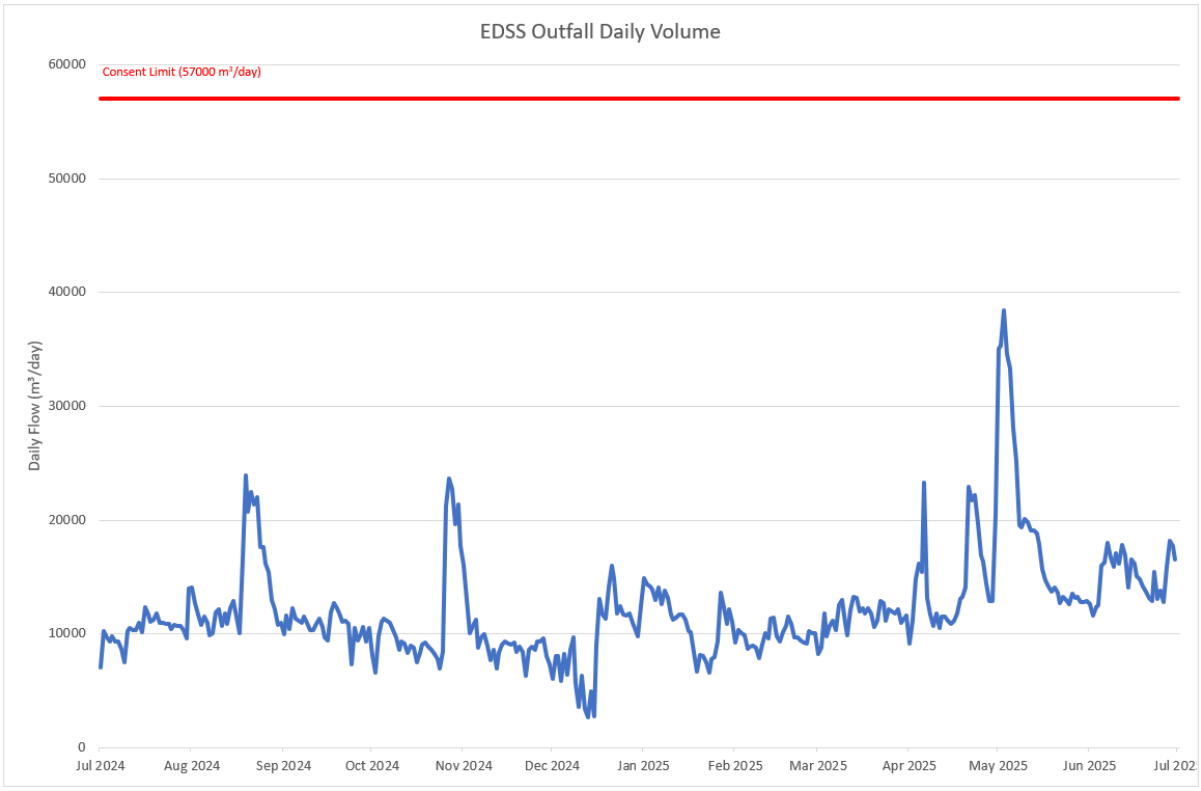


Figure 2. Daily discharge volumes to ocean outfall July 2024 to June 2025

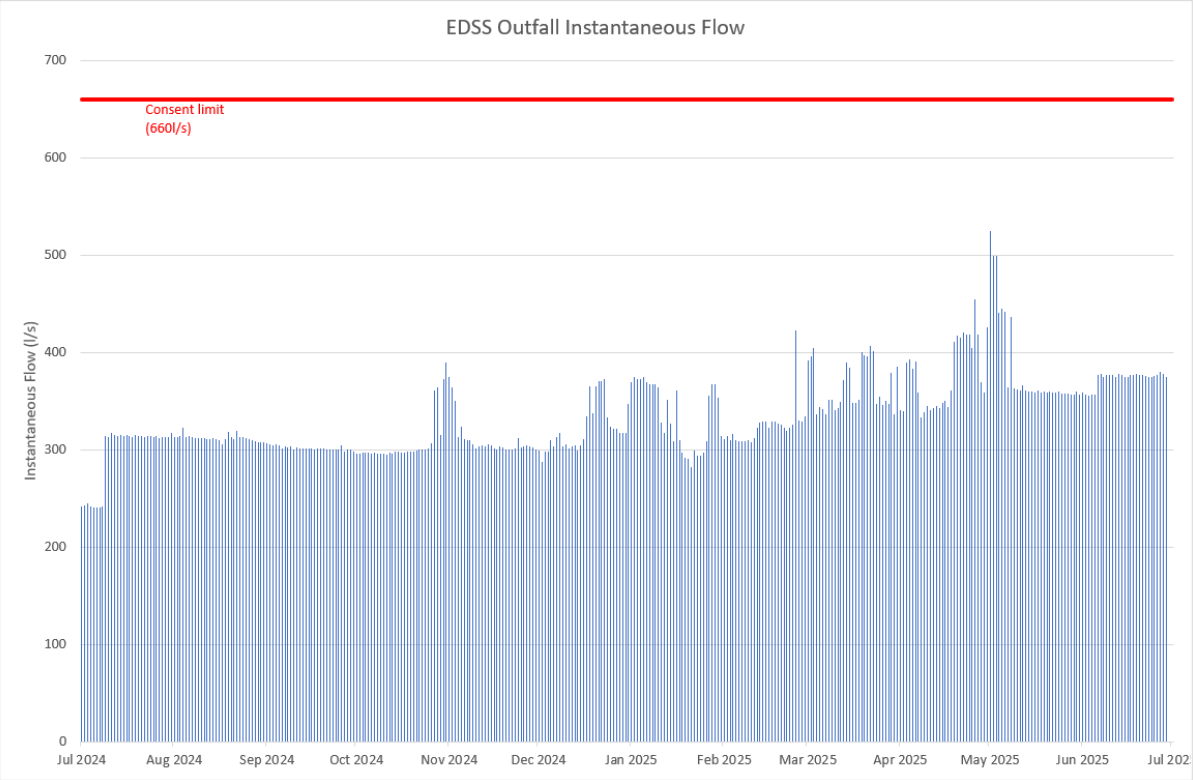


Figure 3. Maximum instantaneous daily discharge rate between July 2024 to June 2025

Figures 2 and Figure 3 above show the ocean outfall daily discharge volume remained consistently below the consent limit of 57,000 m^3/day and instantaneous flow remained below the limit of 660 l/s. As a result compliance with Condition 2 was met in full.

The Council lost data from the Woodend EDS from 1 July 2024 to 8 July 2024, which is illustrated in the "dip" in results in the instantaneous flow graph over that period. There is no way of trying to derive the outflow from the plant over that period and the reason for the outage is unknown. It is noted that this outage was rapidly repaired and the system was fully online again from 8 July 2024 onwards through the reporting year.

2.3. Conditions 9 – 12: Ocean Outfall Pipeline Discharge Quality

2.3.1. Overview of monitoring and compliance requirements

Condition 9

Condition 9 states the following:

> *"A single grab sample shall be taken from the ocean outfall pipeline at the frequencies noted in this condition and the same shall be analysed for the identified contaminants at the frequencies noted for each contaminant. Report schedules shall be prepared recording the results of such analyses. Grab sample locations and the times at which the grab samples are taken shall be recorded and included in the reporting schedules. The consent holder shall retain the reporting schedules.*

a) Weekly

- *i. pH -reported as pH units*
- *ii. Dissolved oxygen - reported as % saturation*
- *iii. Temperature - reported as °C*
- *iv. Five-day biochemical oxygen demand - reported as g O/m^3*

v. *Filtered five-day biochemical oxygen demand - reported as g 0/ m^3*
vi. *Total suspended solids - reported as g/ m^3*
vii. *Dissolved inorganic nitrogen - reported as g N/ m^3*
viii. *Ammoniacal nitrogen - reported as g N/ m^3*
ix. *Dissolved reactive phosphorus - reported as g P/ m^3*
x. *Faecal coliforms - reported as no./100ml*
xi. *Enterococci - reported as no./100ml*
xii. *Escherichia coli - reported as no./100ml.*

b) *Monthly*
i. *Total phosphorus – reported as g P/ m^3*
ii. *Total nitrogen – reported as g N/ m^3*

c) *Three monthly for the first two years and then six monthly thereafter*
i. *Arsenic - reported as g/ m^3*
ii. *Cadmium - reported as g/ m^3*
iii. *Chromium - reported as g/ m^3*
iv. *Copper - reported as g/ m^3*
v. *Lead - reported as g/ m^3*
vi. *Nickel - reported as g/ m^3*
vii. *Zinc - reported as g/ m^3*
viii. *Mercury - reported as g/ m^3*

All metal analysis shall be for total metals only.

d) *Three Monthly for the first two years and then annually thereafter*
i. *Human Enterovirus. (no./10l)*
ii. *Human Adenovirus. (no./10l).*

e) *Annually*
i. *Thermophilic campylobacter spp (cfu/l)*
ii. *Salmonella spp (no./l)*
iii. *Organo chlorine pesticides – reported as g/ m^3*
iv. *Polychlorinated biphenyls – report as g/ m^3*
v. *Polycyclic aromatic hydrocarbons – reported as g/ m^3*

The initial two year monitoring period began in May 2006 and concluded in April 2008. Since then, metals have been analysed at least to six monthly intervals though often quarterly, with viral and bacterial monitoring completed annually, in line with Condition 9 above.

Condition 11

Condition 11 requires that monitoring results for five-day biochemical oxygen demand (BODs), total suspended solids (TSS) and ammoniacal nitrogen (ammoniacal-N) are compared with the following limits:

> *"Based on the weekly sampling required by Condition (9) of this consent, and taken over each 26 week period commencing on the 1st of May, and the 1st of November of each year during the term of this consent, no more than 16 values in each 26 week period shall exceed the following standards for each of the named contaminants [Table 3]:"*

Table 3: Condition 11 limit of resource consent CRC041162.2.

Contaminant	Unit	Standard
BOD5 (filtered)	g/m^3	25
Total suspended solids	g/m^3	200
Ammoniacal nitrogen	g/m^3	27

Condition 12

Condition 12 requires that faecal indicator bacteria monitoring results are compared with prescribed limits:

> *"Based on the weekly sampling required by Condition (9) of this consent, over each Summer period (November - February inclusive) and over each Winter period (March - October inclusive), no more than six values from eight consecutive samples, shall exceed the following standard values and no more than two values from eight consecutive samples, shall exceed the higher value for enterococci and faecal coliforms /Table 4/."*

Table 4: Condition 12 limits of resource consent CRC041162.2.

Contaminant	Unit	Standard value		Higher value	
		Summer	Winter	Summer	Winter
Enterococci	No./100mL	500	500	1,500	1,500
Faecal coliforms	No./100mL	1,000	9,000	5,000	20,000

2.3.2. Physiochemical

The results of weekly physicochemical monitoring at the outfall structure between July 2024 and June 2025 are summarised in Table 5, alongside results from the previous monitoring periods (July 2022 – June 2023 and July 2023 – June 2024). Dissolved Oxygen (% saturation) was added for the first time in the previous 2023/24 annual report. Each of these results are discussed by parameter below.

Physiochemical sample monitoring requirements for field pH, DO (g/m3) and DO (% saturation) were met as required during the 2024/25 period, with 52 weekly samples collected over the year. Field data available for 2024/25 is summarised in the table and graphs below and provided in APPENDIX B "Ocean Outfall Field Data".

Table 5: Physiochemical water quality in the ocean outfall discharge.

Parameter	July 2024 to June 2025			July 2023 to June 2024		July 2022 to June 2023		Consent Limit
	Samples	Median	Range	Median	Range	Median	Range	
Laboratory pH (unit less)	52	8	7.6-9	7.9	7.5-9.3	7.9	7.6 – 9.7	
Field pH (unit less)	52	8.05	7.28 – 9.12	7.7	7.16 – 9.42	7.63	6.0 – 9.14*	
Field DO (g/m^3)	52	0.985	0.16-8.9	0.55	0.02 – 8.83	1.3	0. 0– 14.7	
Field DO (% Saturation)	52	9.65	1.6 – 69.5	4.9	0.2 – 72.4	-	-	
Field Temperature (˚C)	52	14.75	4.9-20.9	14.1	4.9 - 22	14.3	4.3 – 22.1	
TSS (g/m^3)	52	49.5	12-155	38	8-102	34	12 - 139	200

**Outlier values within this year are excluded, as likely meter reading or data entry errors*

pH

Laboratory measured pH and field measured pH in 2024/25 are compared with earlier years in the graphs below. There is no consent limit for pH. The field results show a spike of high pH in August 2022 (several results show a pH of around 16 which is likely to be a meter reading error or data entry error). The error has been subsequently corrected as seen in subsequent data. However most lab and field results were between 7.5 and 8.5. The laboratory data shows a spike occurs in pH in the Ocean Outfall discharge in around January and February each year.

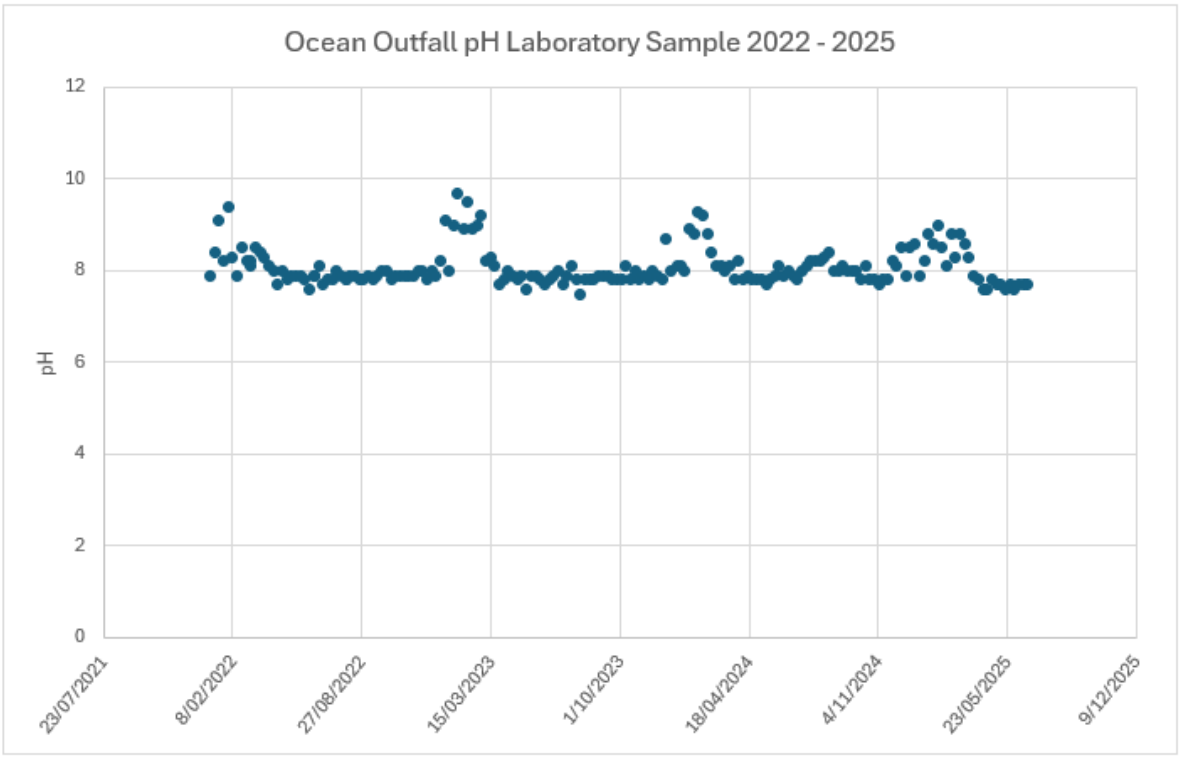


Figure 4: pH (laboratory sample) of the ocean outfall discharge between January 2022 to June 2025

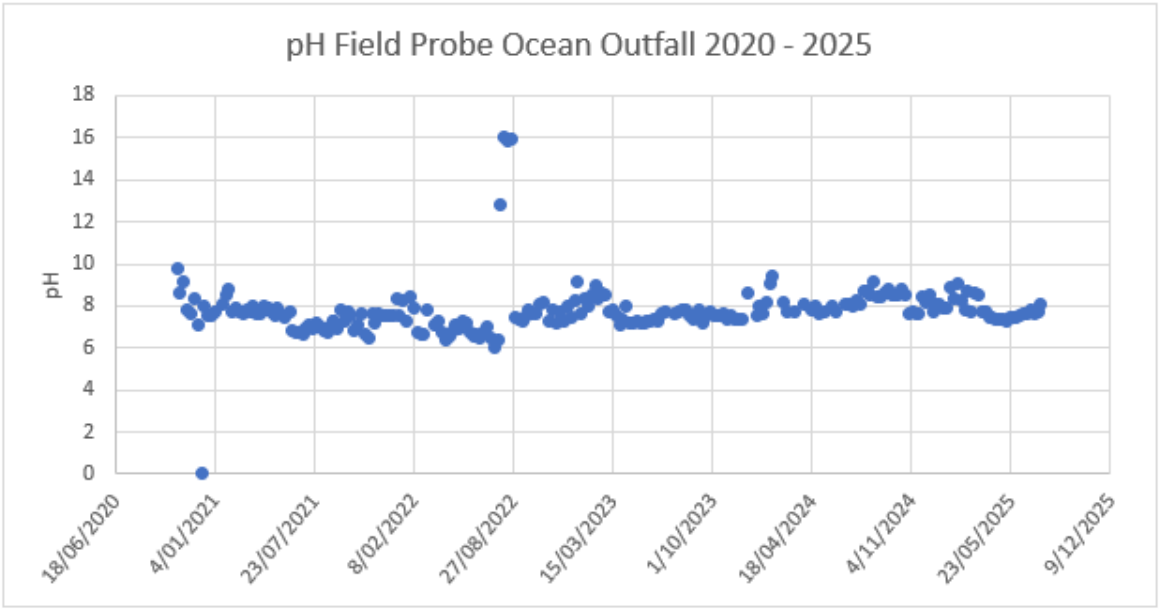


Figure 5: pH (field probe) of the ocean outfall discharge between October 2020 to July 2025

Dissolved oxygen

Dissolved oxygen (DO) concentrations in the Ocean Outfall discharge were trending downwards in the last three years in comparison with previous years, as shown in the below graph. The DO measurements are taken with handheld meters that are calibrated monthly. The DO was sampled weekly at the outfall structure as required under Condition 9 (see APPDENDIX B for raw data records). There is no consent limit for DO.

Dissolved oxygen is lower in the summer months and higher during winter months as shown in the below graphs.

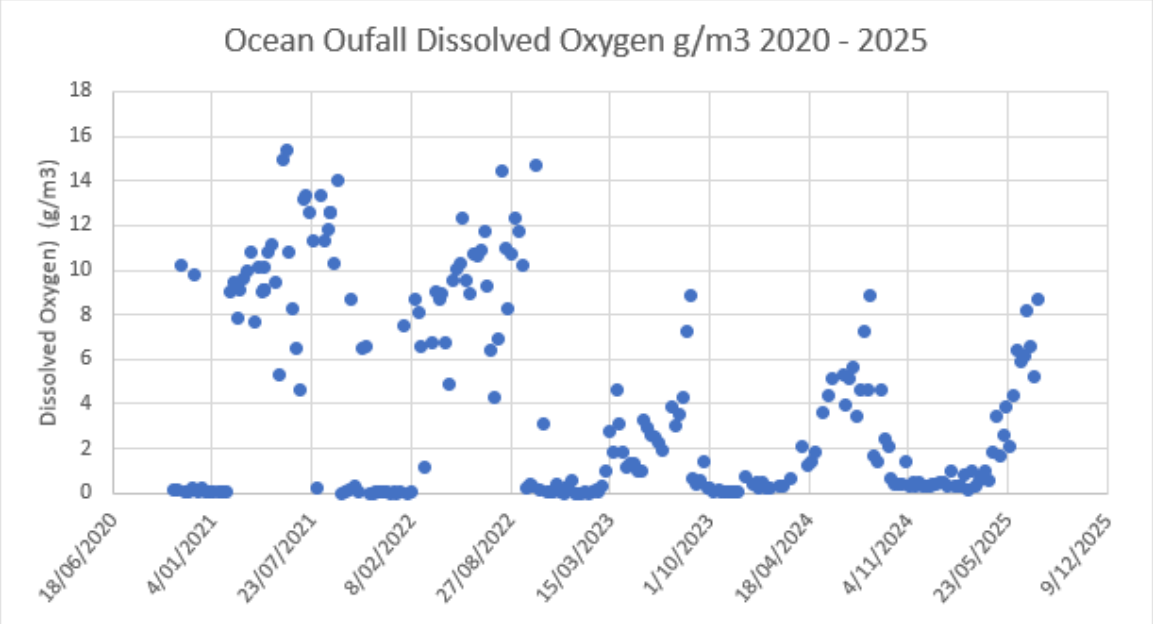


Figure 6. Dissolved oxygen concentrations in the ocean outfall discharge between October 2020 and July 2025.

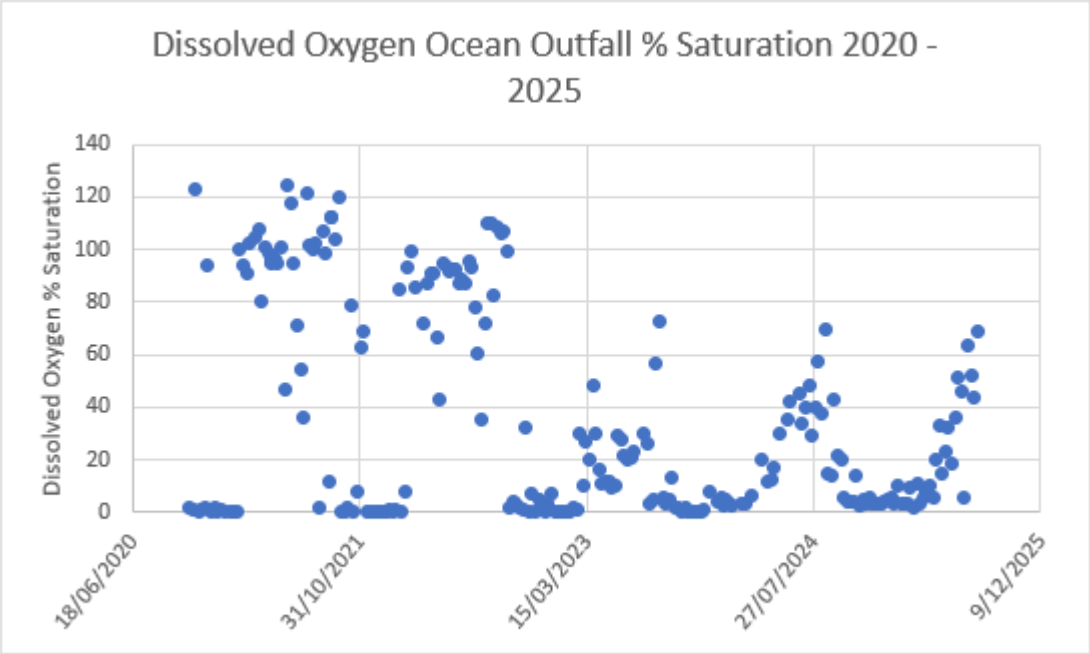


Figure 7: *Dissolved oxygen concentrations (% Saturation) in the Ocean Outfall discharge between October 2020 and July 2025.*

Temperature

Temperature data showed typical seasonal variation (Figure 8). The annual temperature range in 2024/25 is consistent with previous years. The temperature was sampled weekly at the Outfall structure as required under Condition 9 (see APPENDIX B for raw data records). There is no consent limit for temperature.

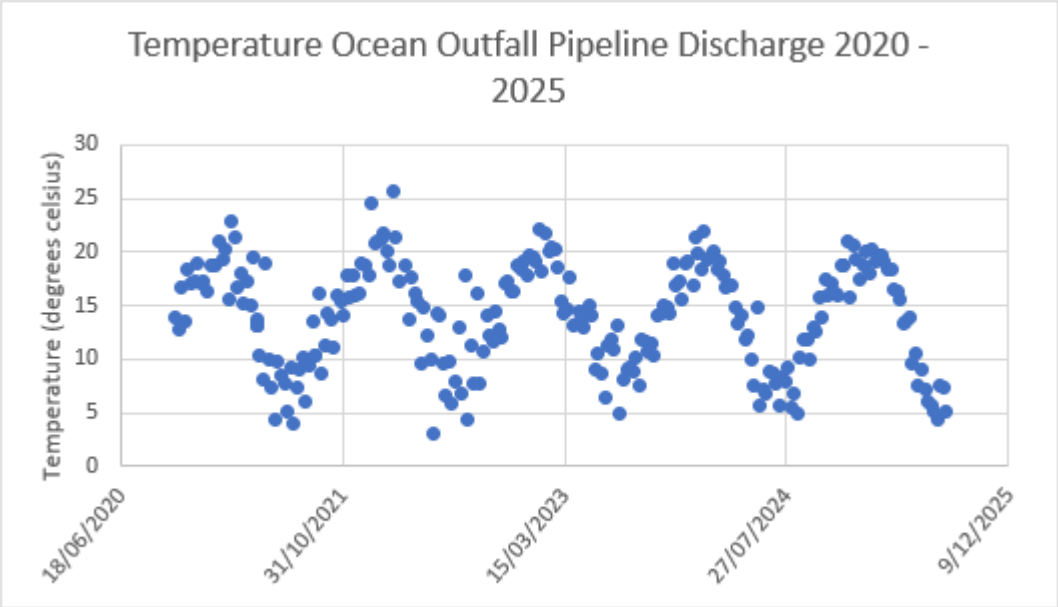


Figure 8. Temperature of the ocean outfall discharge between *October 2020 and July 2025*

Total suspended solids

There was no exceedance of the consent limit for TSS (200 g/m^3) over the 2024/25 monitoring period of 52 samples (Figure 9), with the maximum reading during this reporting year of 155 g/m^3 which is well below this allowance. Therefore, full compliance was achieved for Condition 11 of the resource consent, which allows up to 16 exceedances in each 26-week period of the current monitoring period. On average the results were very similar with the previous monitoring period (median in 2024/25 of 49.5, compared with 38g/m3 in 2023/24 and 34g/m3 in 2022/23). In general, the TSS concentrations displayed consistent quality. The higher TSS results recorded are related to times of high algal numbers in the treatment ponds which occurs at around January each year.

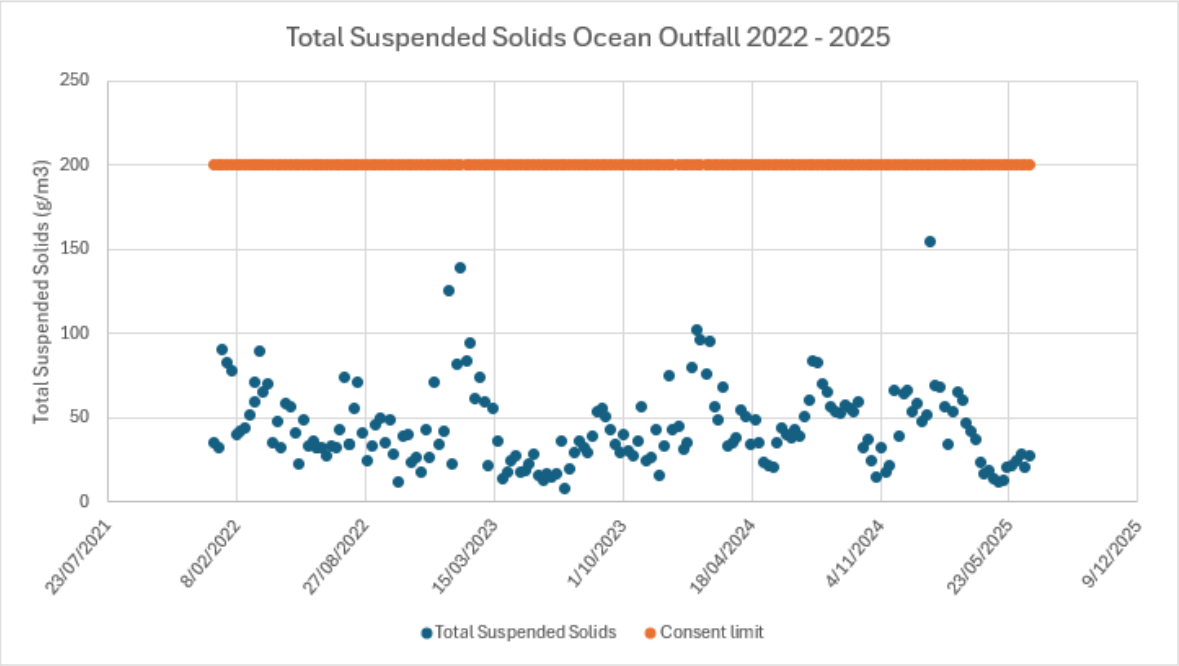


Figure 9. Total suspended solids in the ocean outfall discharge between January 2022 and June 2025.

2.3.3. Biochemical oxygen demand

Biochemical oxygen demand (BOD) results for the 2024/25 monitoring period were similar to those recorded during 2023/24 (Table 6), ranging in the current year from 8 g O^2/m^3 to 78g O^2/m^3, compared with 8 g O^2/m^3 to 45 g O^2/m^3 in the previous year.

The soluble BOD results were similar in the 2024/25 monitoring period compared to previous periods and remain well below the consent limit. A summary of BOD results from the ocean outfall discharge is provided in Table 6. The soluble BOD5 graph below shows a slight seasonal variation well below the consent limit from the period 2020 to 2025. The long term BOD5 total and soluble data is attached in APPENDIX C "Ocean Outfall Pipeline Laboratory Samples". The continuing low soluble biochemical oxygen demand indicates a low level of oxygen is being removed from the discharge water, providing a good (residual) level of oxygen for oxygen demanding aquatic species to feed on. This generally signifies good water quality is available for aquatic organisms in the receiving environment.

Table 6: Biochemical oxygen demand (g O_2/m^3) in the ocean outfall discharge.

Species	July 2024 to June 2025			July 2023 to June 2024		Consent Limit
	Samples	Median	Range	Median	Range	
BOD_5 (g O2/m3)	52	20	8-78	20	8-45	
Soluble BOD5 (g O2/m3)	52	2.98	1.02-14.6	3.1	0.9-5.4	25

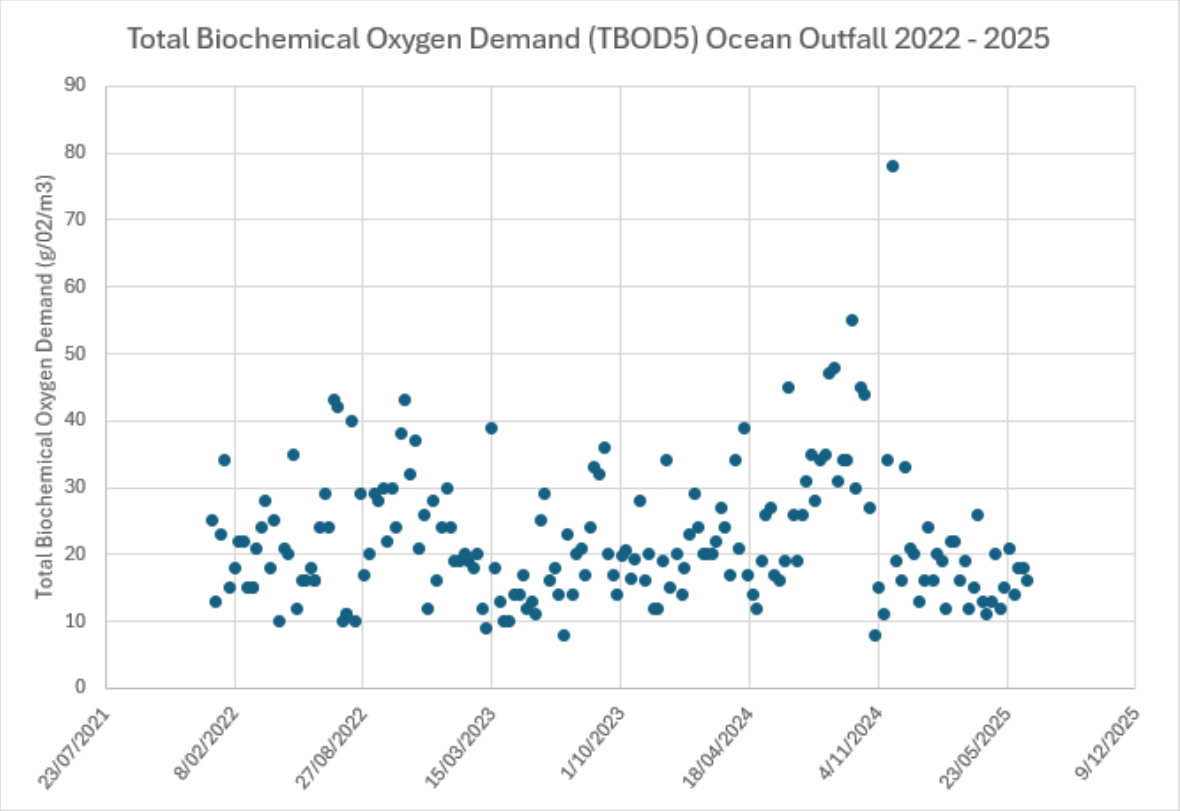


Figure 10: Five-day biochemical oxygen demand of the ocean outfall discharge January 2022 - June 2025.

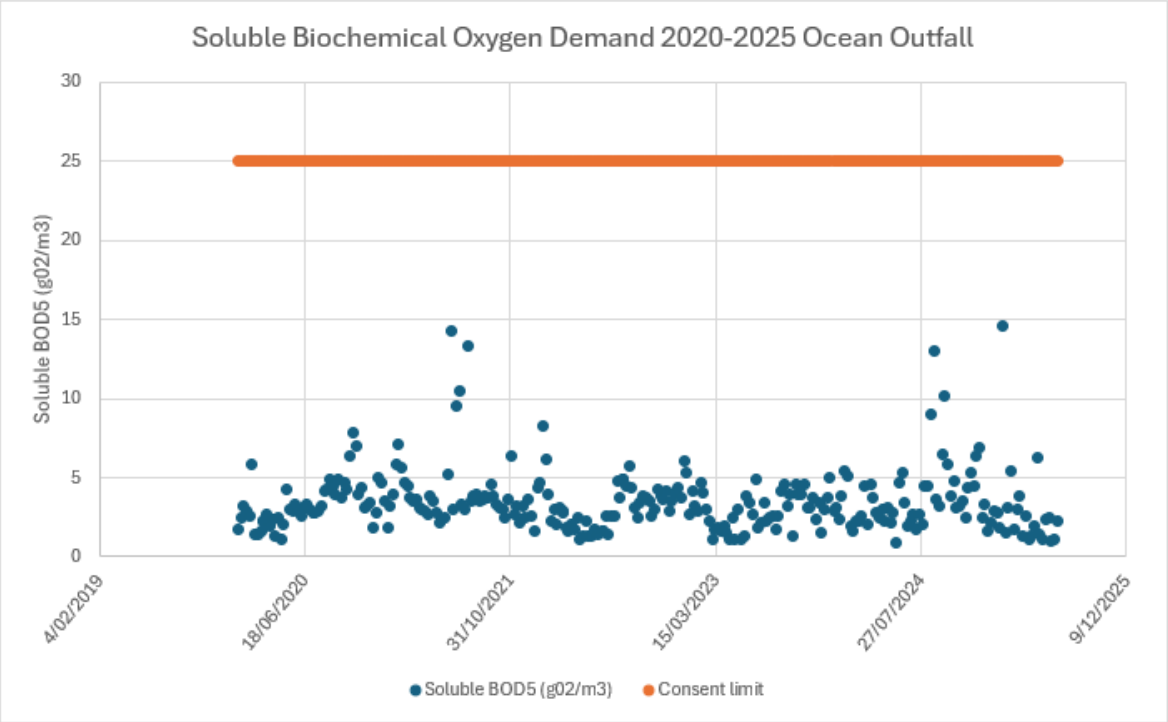


Figure 11. Soluble five-day biochemical oxygen demand of the ocean outfall discharge from January 2020-June 2025

2.3.4. Nutrients

Condition 9 requires dissolved inorganic nitrogen (DIN), ammoniacal-N and dissolved reactive phosphorus (DRP) to be measured weekly. Total nitrogen (TN) and total phosphorus (TP) are required to be measured monthly. The frequency of monitoring prescribed by Condition 9 was met for all parameters during 2024/25.

Table 7: Nutrient concentrations (g/m^3) in the ocean outfall discharge.

Parameters	Samples	July 2024 to June 2025		July 2023 to June 2024		July 2022 to June 2023		Consent Limit
	N	Median	Range	Median	Range	Median	Range	
Dissolved inorganic nitrogen	52	12.8	1.77-31	17.1	1.14 – 28	14.9	0.035-23	
Ammoniacal-N	52	12.3	1.55-31	15.7	1.13 -27.6	12.4	0.024-23	27*
Total nitrogen	18	16.9	5.8-34	19.6	8.2 - 33	13.2	8.9-20	
Dissolved reactive phosphorus	52	4.9	1.61-8.3	4.8	2.2 – 8.2	4	0.7-9.2	
Total phosphorus	18	6.1	2-8.2	5.75	3.7 – 7.6*	5.2	2.7 – 8.3	

Note: No more than 16 values to exceed limit in the 26-week period beginning 1 May and 1 November. N: number of samples.
*An anomalous sample of 300 during this year was excluded from the results

The dissolved inorganic nitrogen results shown in Figure 12 below, indicate seasonal fluctuation with a decrease throughout the summer months and seasonal peaks each winter/spring. There is a slightly reducing trend in the winter peaks recorded since 2020 and no clear trend in the median recorded DIN levels since 2022. There is no consent limit for DIN.

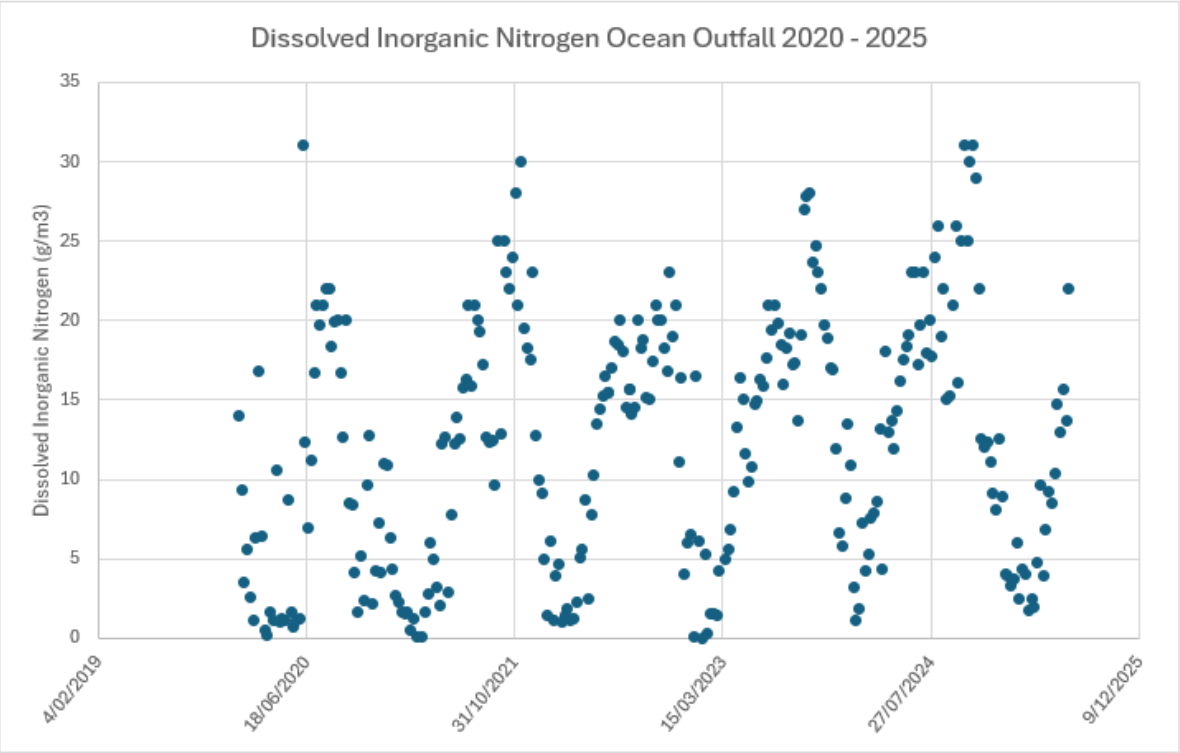


Figure 12. Dissolved inorganic nitrogen concentrations in ocean outfall discharge January 2020-June 2025

In general the Ammoniacal-N (NH_4) (TAN) levels are similar to the previous monitoring periods. TAN levels are also lower over the summer months with a seasonal peak each winter and seasonal fluctuation. There is no apparent trend in the median level of ammonia recorded since 2022. During the 2024/25 year there were four exceedances of the consent limit of 27g/m3 of Total Ammoniacal-N. However, consent compliance is achieved as demonstrated through the below graph and attached *"APPENDIX C Ocean Outfall Pipeline Laboratory Samples"* raw data spreadsheet. The consent condition 11 states *"Based on the weekly sampling required by Condition (9) of this consent, and taken over each 26 week period commencing on the 1st of May, and the 1st of November of each year during the term of this consent, no more than 16 values in each 26 week period shall exceed the following standards for each of the named contaminants".*

There were less than 16 exceedances over the 2024/25 year within each 26 week monitoring period, therefore the consent condition was achieved.

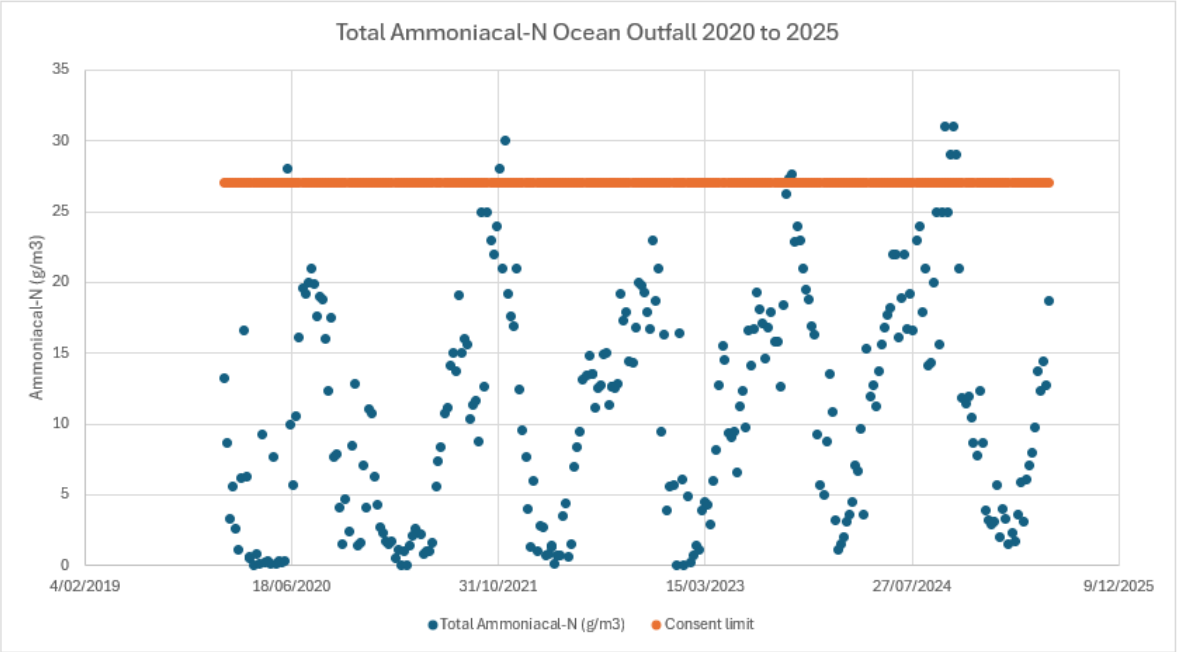


Figure 13. Ammoniacal-N concentrations in the ocean outfall discharge between January 2020 and June 2025

Total nitrogen (TN) concentrations over the 2024/25 monitoring period show a slight declining trend over the last three years of sampling (Figure 14 below). There is no consent limit for TN.

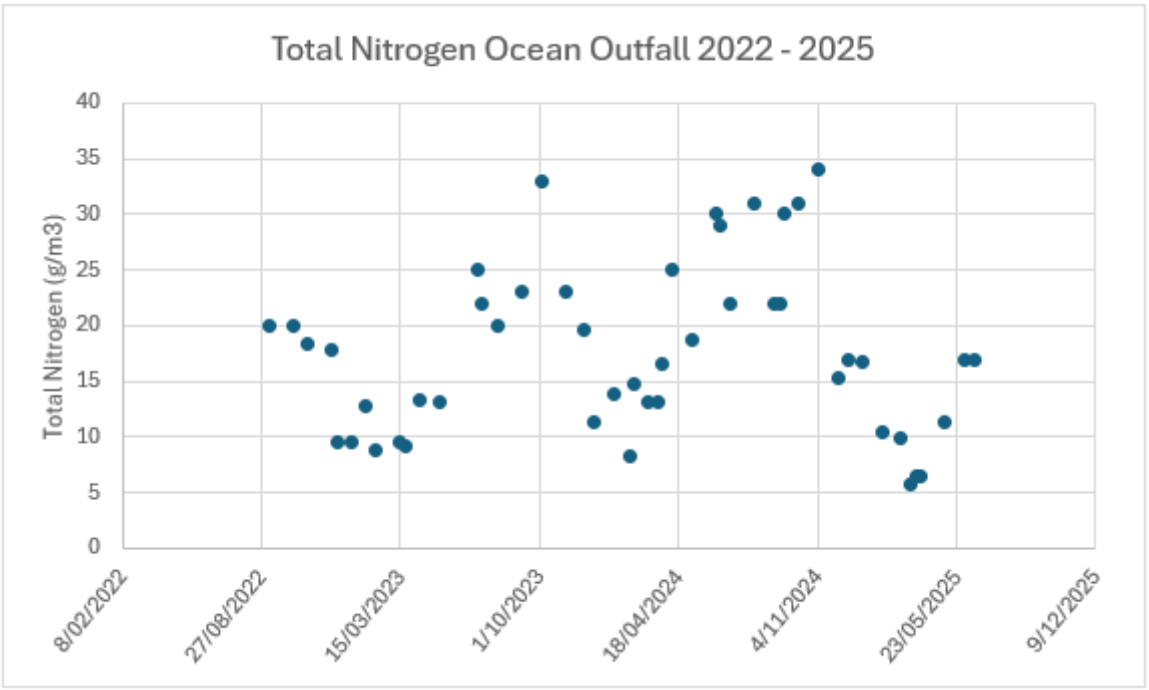


Figure 14. Total nitrogen concentrations in ocean outfall discharge between September 2022 and June 2025

The monitoring results for dissolved reactive phosphorous (DRP) and total phosphorus (TP) are shown in Figures 15 and 16. The pond performance and algae species and numbers remained stable during the 2024 -25 period. There are no consent limits for DRP or TP. The median DRP was similar between

2022/23, 2023/24 and 2024/25 (measuring 4g/m^3 to 4.9g/m^3). There appears to be a slight downward trend in Dissolved Reactive Phosphorous discharges between 2020 and 2025.

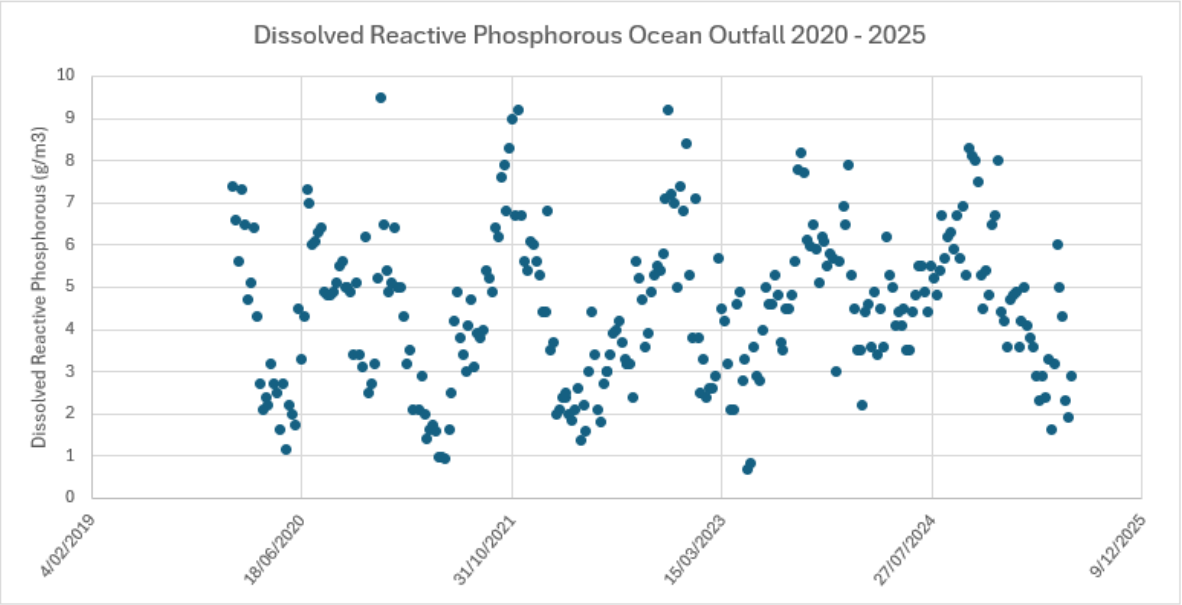


Figure 15. Dissolved reactive phosphorus concentrations in the ocean outfall discharge from January 2020 to June 2025.

The unusually high peak of total phosphorous recorded on 7/02/2024 was a laboratory result and may be considered an anomaly given no other similar peaks occurred during the sampling period.

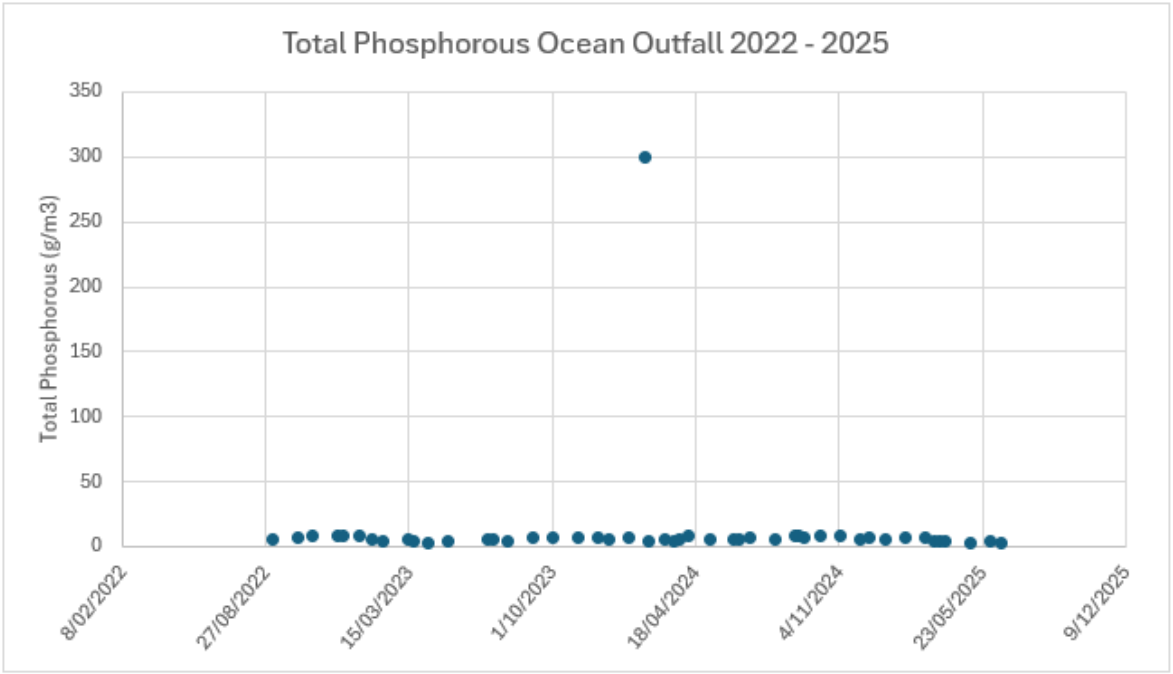
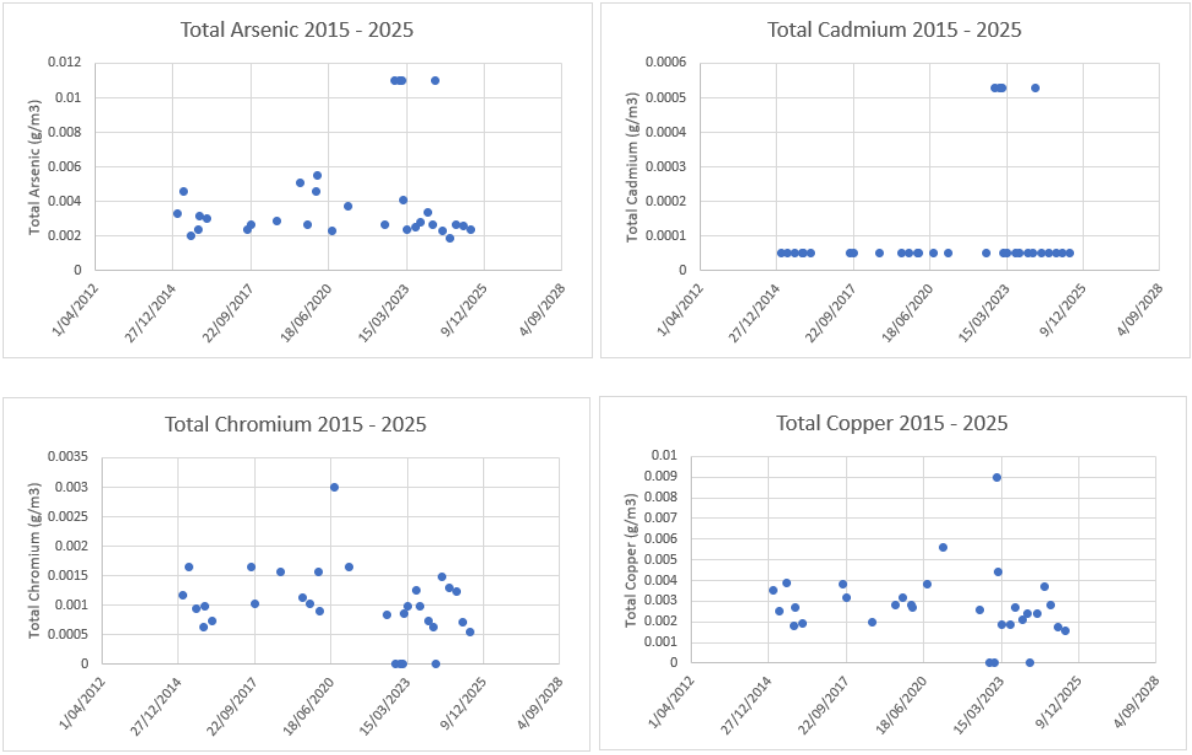


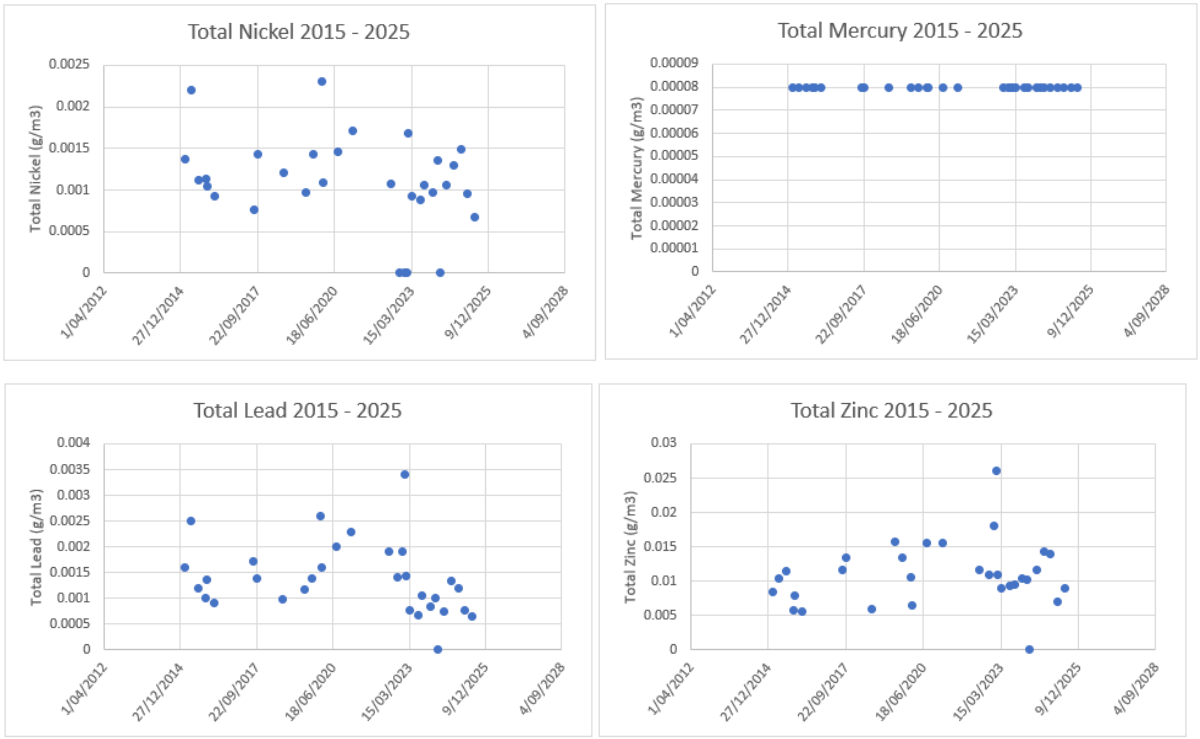
Figure 16. Total phosphorus concentrations in ocean outfall discharge between September 2022 and June 2025

2.3.5. Metals and metalloids

Total metal and metalloid concentrations from February 2015 until June 2025 are shown in Figure 17 below. These metals are required to be sampled twice a year however 4 samples of each parameter were taken during the 2024/25 year (see results in APPENDIX D – Outfall Metals and Metalloids). Review shows the results for the metals which are frequently detected in the Ocean Outfall effluent discharge (e.g. arsenic, chromium, copper, nickel, lead and zinc) were generally on a declining trend when compared with the previous monitoring periods.

The most recent individual spike in copper, lead and zinc occurred in the January 2023 sample, which appears to be an isolated event (see Figure 17 below). Results for mercury and cadmium in the samples appear flat in their graphed result ranges because these metals were not detected by the laboratory during 2024/25 or in any earlier period. A group of consistent results at the top or bottom of the graph also indicates that this metal was not detected in that sample (e.g. as particularly evident in the graphs of arsenic, chromium and nickel). There are no consent limits for any trace metals or metalloids.





**Note Mercury and Cadmium were below detection limits in all samples*

Figure 17: Total metals and metalloids in ocean outfall discharge between 2015 and 2025

2.3.6 Microbiological quality

The Woodend and Kaiapoi WWTPs have ultraviolet (UV) disinfection systems in operation to reduce bacterial numbers in the discharge. During the 2024/25 monitoring period the UV system was in continuous operation for the Woodend WWTP and predominantly operates at the Kaiapoi plant as it is activated whenever pre-set levels of bacteria are detected.

Consent CRC041162.2 specifies weekly monitoring of three faecal indicator bacteria:

- Faecal coliforms
- Enterococci
- *Escherichia coli (E. coli)*

The faecal indicator monitoring data for 2024/25 is summarised in Table 8 and is compared with the previous year (2023/24) (see APPENDIX C for raw data). This data is plotted alongside relevant consent limits as shown in the Figures on the following pages. The sampling frequency for faecal indicator bacteria during the current monitoring period complied with the requirements of Condition 9 and Condition 12 with weekly samples collected as required and with all sampled values meeting the requirements of the consent conditions.

The graphs on the following pages show faecal coliform winter samples below relevant seasonal consent limits over the full 2024/25 monitoring period, in line with previous years.

There were higher median sample levels recorded for each parameter during 2024/25 than in the preceding 2023/24 year, as shown in the below table. The 2024/25 sample levels for each faecal indicator type were higher than their historic ranges and previous year trends, although each still met the consent requirements for number of exceedances within each limit and season (see further analysis below).

Table 8: Faecal indicator bacteria in the ocean outfall discharge (cfu/100 mL).

Indicator	July 2024 to June 2025			July 2023 to June 2024			Consent Limit	
	N	Median	Range	N	Median	Range	Standard	High
Faecal coliforms (summer: Nov-Feb)	17	270	0-10,250	17	30	20-270	1,000	5,000
Faecal coliforms (winter: March - Oct)	35	50	0-1,400	35	40	2 -1300	9,000	20,000
Enterococci	52	40.7	0-2,420	52	20.2	10-388	500	1,500
E. coli	52	50	0-3,800	52	30	1-900	-	-

Note: "For each period (summer: November—February; winter: March—October) no more than six out of eight consecutive samples may exceed the 'standard' value and no more than two out of eight consecutive samples may exceed the 'high' value. N: number of samples.

Enterococci numbers in a wastewater discharge of this type are typically lower than faecal coliform or *E. coli* numbers, which are more likely to include non-human derived faecal indicator bacteria as well as human-derived sources. Consent limits for enterococci do not vary between seasons as they do for faecal coliforms, although there is still a standard (500 cfu/100 mL) and high (1,500 cfu/100 mL) limit.

There were only two exceedances of the enterococci "high" limit over the "summer" of 2024/25, meeting the consent limit which allows for two summer exceedances. These were also not consecutive. There were four exceedances of the enterococci "standard" limit over the summer of 2024/25, which is less than the consent limit of six exceedances over this time period and these were also not consecutive.

There was only one exceedance of the standard and high enterococci limit over the "winter" months, also meeting the consent requirement. The Council believes a likely cause of the individual

enterococci spikes shown in the graph below are from biofilm sloughing off within the pipe when the sample is taken which causes an occasional very high enterococci reading. This is not representative of the usual water quality of the discharge. In any case, full compliance with Condition 12 was achieved for enterococci with both the standard and high consent limits (refer Appendix C for enterococci raw data records).

The faecal coliform samples taken from January 2020 until June 2025 are graphed separately below for summer and winter samples against their respective consent limits. As seen in the summer graph, only two results breached the "high" consent limit for coliforms during the 2024/25 summer, which met the consent requirement. Only six results over this summer in total breached the standard limit and these were non-consecutive occurrences, which also meets the consent requirement. On no occasion over this reporting period were either the standard or high consent requirements breached for faecal coliforms during either summer or winter.

For E.coli, the below graph of results from 2020 to 2025 shows most results are below 500cfu/100mL. There are only a couple of isolated spikes where E.coli populations reach around 1,000cfu/100mL and one occasion where a population of 1,400 cfu/100mL was discharged during the last four years. There was also a one off spike of 3,800cfu/100mL on 17 December 2024. These spikes are considered anomalies and are discharged into the ocean from a point 1.5km offshore, away from coastal swimming areas. Therefore there is not considered to be any danger to the public from occasional high E.coli spikes in the ocean outfall discharge.

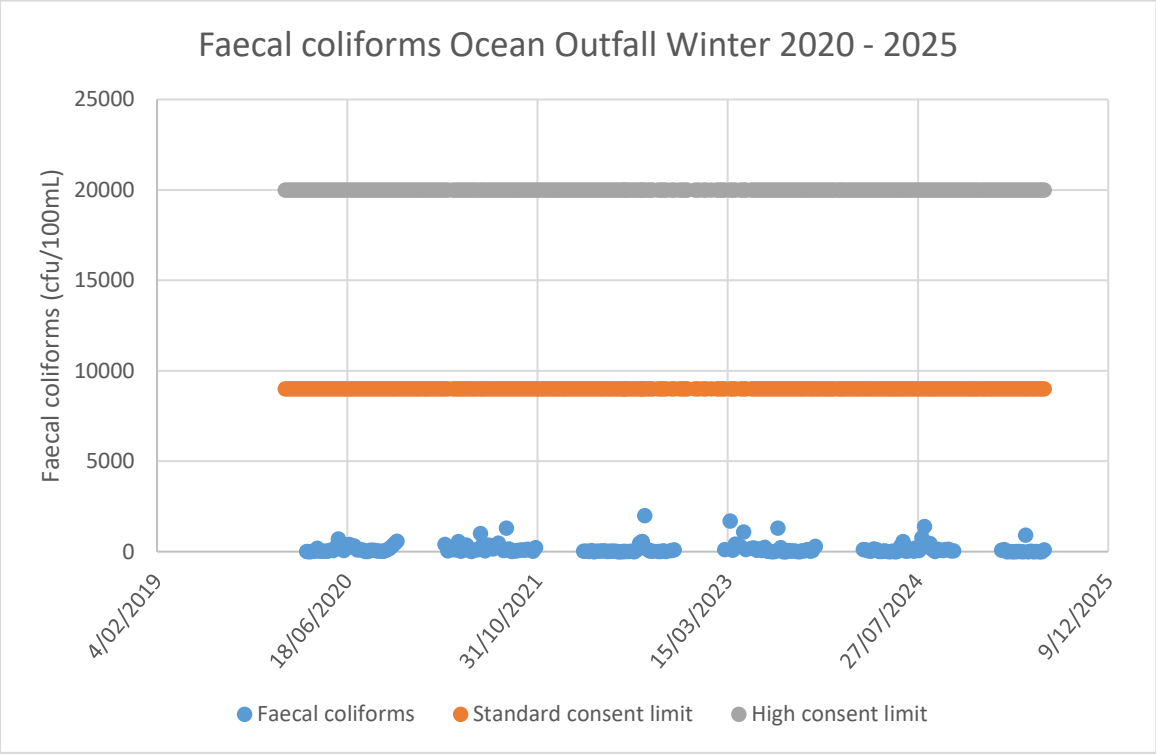


Figure 18. Faecal coliforms in ocean outfall discharge between January 2020 and June 2025 (winter samples only)

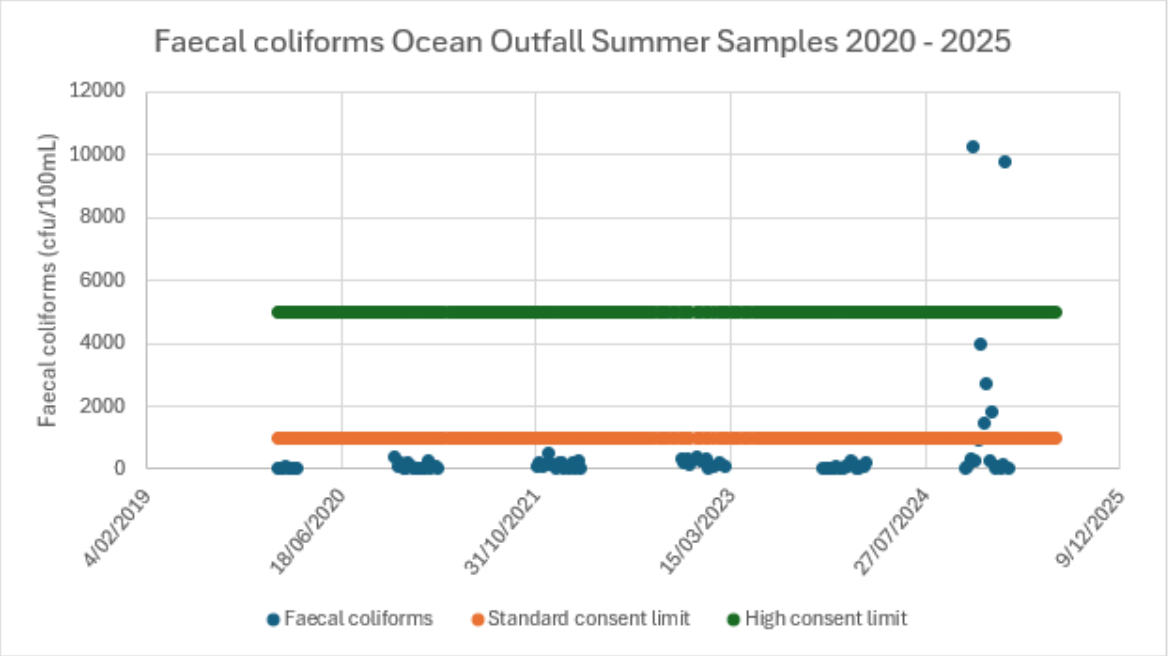


Figure 19. Faecal coliforms in ocean outfall discharge between January 2020 and June 2025 (summer samples only)

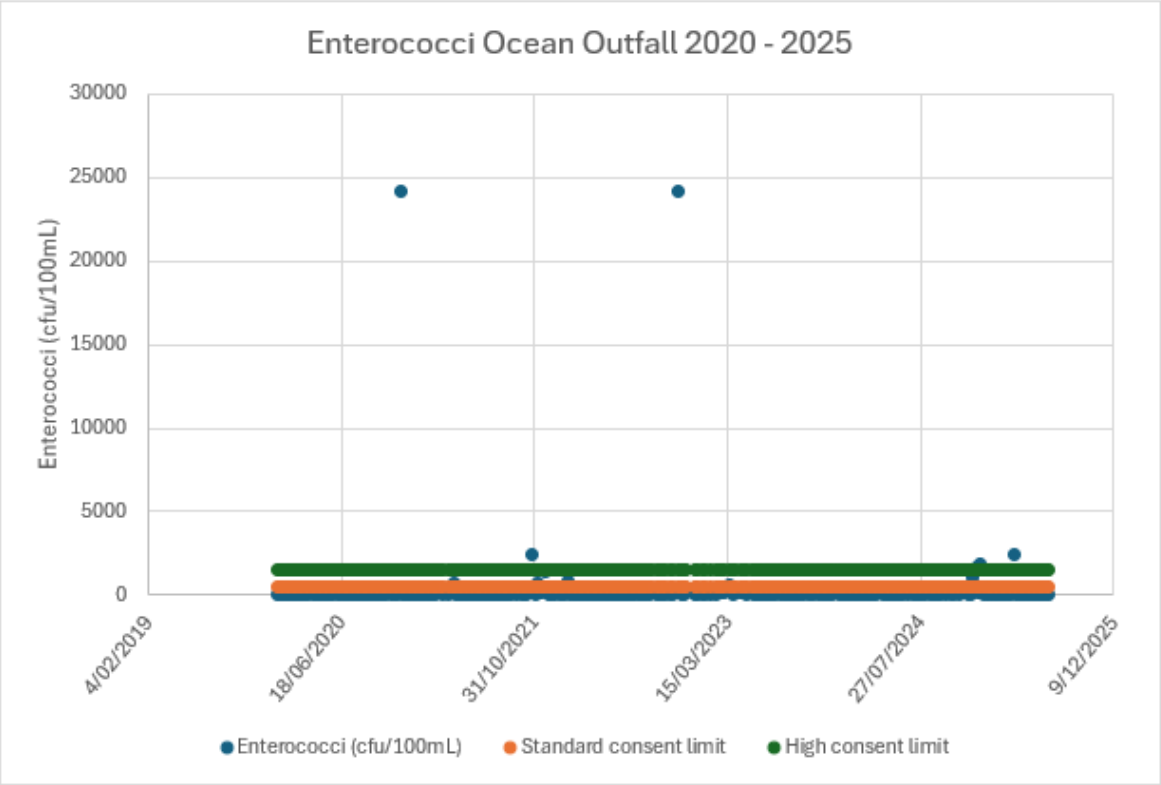


Figure 20. Enterococci in ocean outfall discharge between January 2020 and June 2025

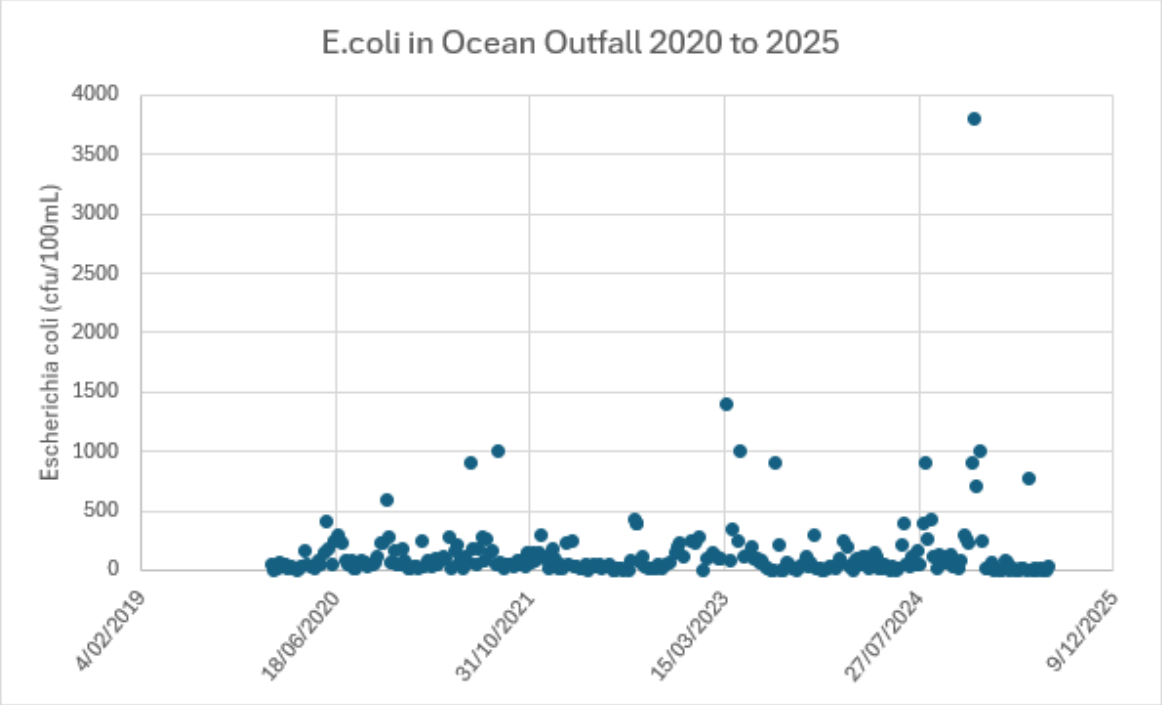


Figure 21. Escherichia coli in ocean outfall discharge between January 2020 and June 2025

2.3.7 Human pathogens

The results for the 2024/25 human pathogen tests are shown in Table 9 alongside results from the previous monitoring periods. Human enterovirus, adenovirus, *Campylobacter* and *Salmonella spp*. are required to be sampled annually (see TRIM 250415066060 – APPENDIX EI and TRIM 250530097211– APPENDIX E2), as the three-monthly sampling was only required for the first two years.

The human pathogen sampling requirements of Condition 9(d) were met in full in 2024/25. When sampled, human enterovirus and adenovirus were below their respective MDL during the 2024/25 monitoring period (see APPENDIX E2). There are no consent limits for human pathogens.

Table 9: Human pathogens in ocean outfall discharge.

Pathogen	March 2025	March 2024	March 2023	March 2022	March 2021
Human enterovirus (pfu/10 L)	Not detected	Not detected	Not detected	Not detected	Not sampled
Human adenovirus (iu/10 L)	Not detected	Not detected	Not detected	Not detected	<10
Campylobacter	Not detected	Detected	Detected	Not detected	Detected
Salmonella spp. (/500 mL)	Not detected	Not detected	Not detected	Not detected	Not detected

Note: Units: pfu = plaque forming units; iu = infectious units. * Pathogen monitoring during 2015 occurred over various dates.

2.3.8 Organochlorine pesticides, PCBs and PAHs

The annual monitoring for organochloride pesticides, polychlorinated biphenyls (PCBs) and polycyclic aromatic hydrocarbons (PAHs) was undertaken in March 2025 (TRIM 250415066060 – see APPENDIX E1). There are no limits for organochloride pesticides, PCBs and PAHs, specified in the resource consent. Laboratory testing results show organochloride pesticides, PCBs and PAHs were below detection limits in the Ocean Outfall discharge in the March 2025 sampling.

2.3.9 Summary

Overall, requirements of conditions 9 — 12 have been fully met. The following are the main points from the outfall monitoring program:

- The plants are performing well, with monitoring showing the effluent quality comfortably meeting the consent requirements for flow volume and environmental quality limits.
- A recent apparent decline in level of metals and metalloids in comparison with previous monitoring periods
- No clear trend in the median for DIN and Ammonia in recent years
- An increase in median values for faecal indicator bacteria compared with the previous year, but still meeting all consent requirements
- The frequency of laboratory sampling for all parameters was undertaken as required by the consent conditions.
- All organochlorine pesticide, PCB and PAH results were below their respective method detection limits.

2.4 Condition 13 – Woodend Beach, The Pines Beach and Waimakariri River mouth

2.4.1 Monitoring requirements

Condition 13 of CRC041162.2 requires weekly monitoring for faecal coliforms and enterococci at Woodend Beach and The Pines Beach. Woodend Beach is located to the north of the ocean outfall and The Pines Beach to the south. Both locations are north of the Waimakariri River mouth, as shown

in Figure 1. The frequency of monitoring during the 2024/25 period at Woodend Beach and Pines Beach complied with these requirements (see APPENDIX F – raw data Beach Samples). In addition to the weekly monitoring at Woodend Beach and Pines Beach, WDC also sampled at the Waimakariri River Mouth.

2.4.2 Microbiological monitoring results

The microbiological data measured at each site are shown in Figure 22 and Figure 23, and summarised in Table 10 (see APPENDIX F for raw data).

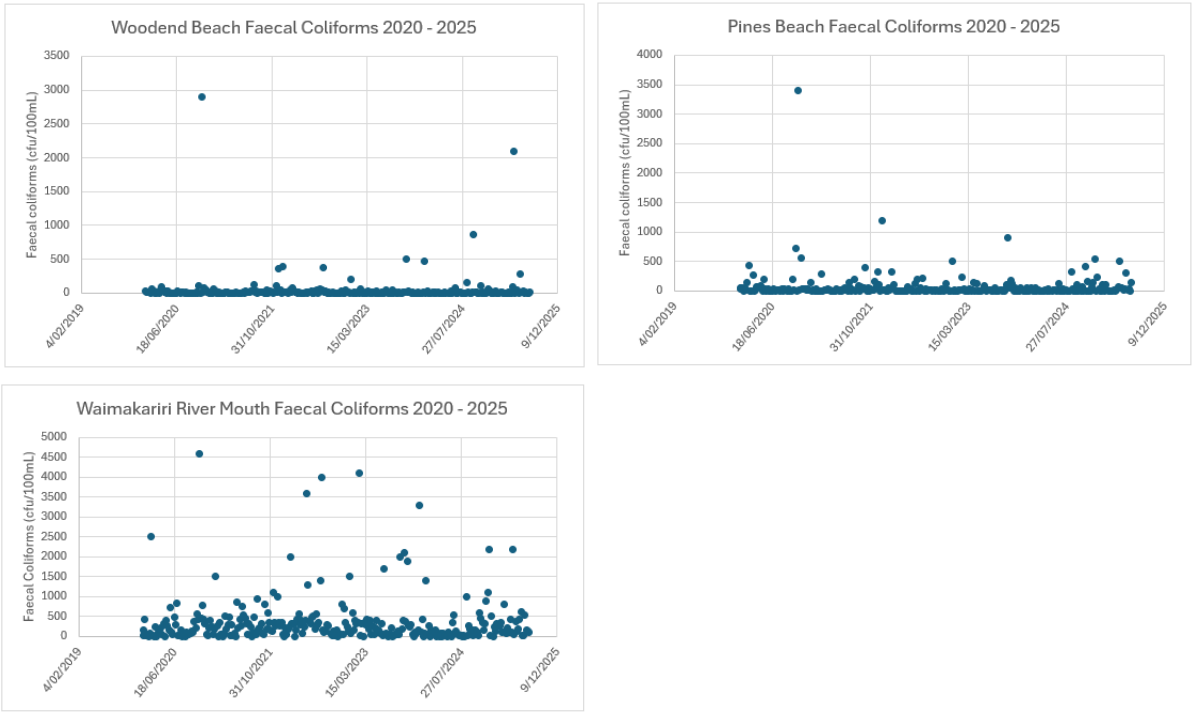


Figure 22: Faecal coliforms at Woodend Beach, The Pines Beach and the Waimakariri River Mouth between January 2020 and July 2025

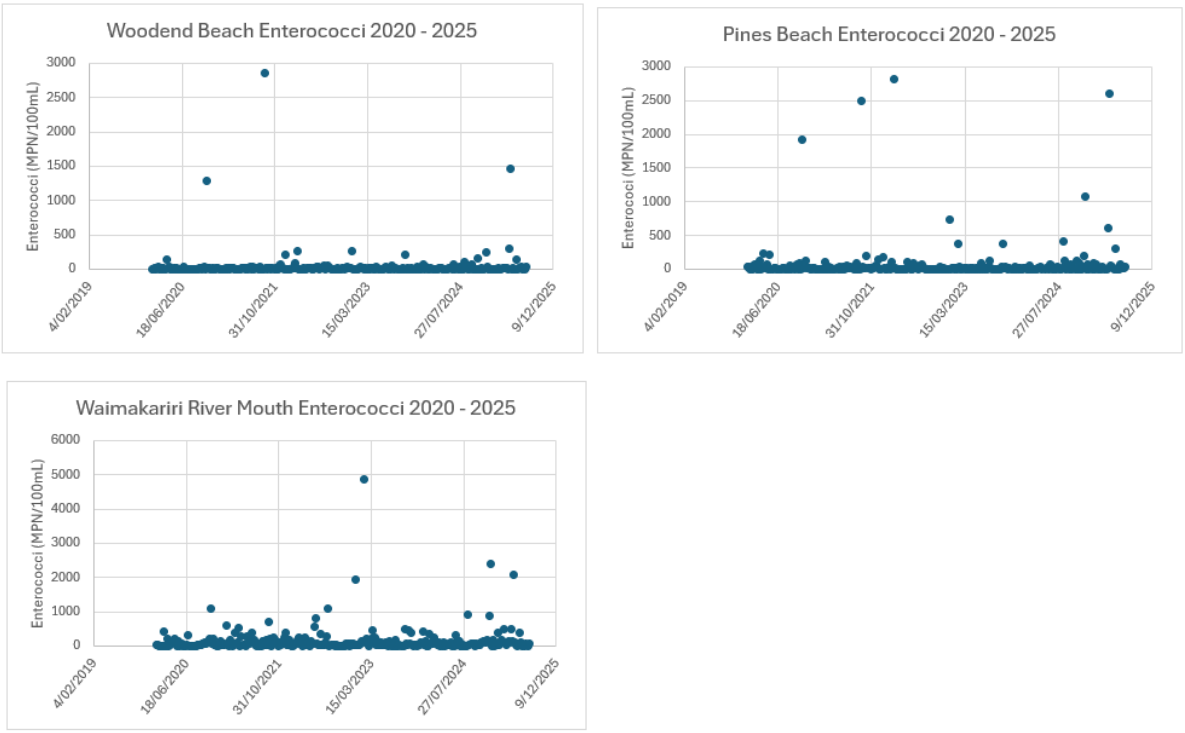


Figure 23: Enterococci at Woodend Beach, Pines Beach and Waimakariri River Mouth between January 2020 and July 2025

Table 10: Microbiological monitoring results for Woodend Beach, The Pines Beach and Waimakariri River Mouth July 2024 – June 2025

Indicator	Woodend Beach		The Pines Beach		Waimakariri River Mouth	
	N	Median (range)	N	Median (range)	N	Median (range)
Faecal coliforms (cfu/100 ml)	52	6 (0-2100)	52	16.5 (0-540)	52	150 (0-2,200)
Enterococci (MPN/100 ml)	52	0 (0-1,467)	52	10 (0-2,603)	52	74.15 (0-2,382)

Note: N: number of samples

Median numbers of faecal coliforms and enterococci were highest at the Waimakariri River Mouth in all monitoring reported this year (Figures 22 and 23) and Table 10. These results could be due to a number of factors that differentiate the river mouth water quality from Woodend and The Pines Beach, such as catchment contaminant inflow from the lowland tributaries [Styx River and Kaiapoi River] entering near the mouth.

Further possible causes of the higher coliforms and enterococci at the river mouth include birdlife from Brooklands Lagoon or pigeons nesting below the Williams Street Bridge in Kaiapoi. A further factor is the short survival rate of faecal coliforms in marine waters.

The data shows that the Ocean Outfall discharge is not having a demonstrable effect on microbiological indicators at the Woodend or Pines Beach. Other factors at the river mouth have more of an impact on microbiological quality, including bird life, or agricultural catchment contaminant inflow down the Waimakariri River into the mouth.

2.4.3 Compliance summary – Beaches

The monitoring requirements in Condition 13 for sampling at Woodend Beach and The Pines Beach have been met in full during the 2024/25 monitoring period.

2.5 Condition 14 – Visual Observations

As required by Condition 14, WDC make visual observations at each sampling site to assess the presence of conspicuous oil or grease films, scums or foams or floatable materials. Wind speed and direction were also recorded and are available on request.

During the 2024/25 period, no conspicuous oil or grease films, scums or foams, or floatable materials were noted at either Woodend Beach or the Pines Beach on any of the weekly site visits during the monitoring.

2.6 Conditions 15 to 26 – Water Quality, Surface Sediments and Benthic Infauna

WDC was granted a variation to the conditions of consent, effective from 12 March 2009, relating to the sampling of mixing zone water quality, sediments and Benthic Infauna. Sampling is required after three years following commissioning of the ocean outfall and at five yearly intervals thereafter.

Water quality, surface sediments and Benthic Infauna sampling was undertaken in May 2022 and provided to Environment Canterbury with the 2021/22 Annual Compliance report. The next sampling under Conditions 15 – 26 is due in 2027.

2.7 Condition 30 – Complaints

Condition 30 states the following:

> *"The consent holder shall maintain and keep a complaints register for all aspects of all operations in relation to the discharge into the ocean. The register shall detail the date, time and type of complaint, cause of the complaint, and action taken by the Consent Holder in response to the complaint. The register shall be available to the Canterbury Regional Council at all reasonable times."*

WDC maintains a complaints register in accordance with the requirements of Condition 30 (see APPENDIX Q).

There were two complaints concerning odour/sludge management concerning the Kaiapoi wastewater treatment plant dated 30 October 2024 and 4 December 2024 during the 2024/25 monitoring period (see APPENDIX Q). Staff commented that due to a period when there was a lack of wind there was an issue with odour at certain times. These complaints all seemed to be one off events and all appear to have been resolved.

Cultural feedback in the form of a consent review by Mahaanui Kurataiao Limited was undertaken in 2024 (TRIM 240801127099). In this review it was recommended that *"WDC continue to engage with Te Ngāi Tūāhuriri Rūnanga for all proposed upgrades, modifications, renewal of the consent and any feasible alternatives. It is also recommended that WDC send monitoring and compliance reports to the Runanga to keep them informed of the results and compliance".*

2.8 WWTP Operations, Maintenance and Major Shutdowns

There were no major shutdowns of the ocean outfall in the 2024/25 monitoring period.

Condition 32 requires the Council to add a list of any maintenance works needed, proposed or undertaken to ensure compliance with the conditions of the consent.

The Council arranges ocean outfall diffuser maintenance periodically, which requires inspections undertaken with a boat and diver. The most recent inspection reports are provided from 19 October 2023 and 18 October 2022 which summarise results from inspections of all 4 diffusers over 2022 to 2023 (see TRIM 231027171812 – APPENDIX G1 and TRIM 221031189044 APPENDIX G2).

Since initial construction in 2006, periodic diffuser maintenance has been undertaken on average through diving maintenance visits about every two years. The Council has signed a contract with NZDS to carry out diving every year for 3 years from 2024/25 - 2026/27. The Diffuser 2 & 3 were completed in 2024/25, and Diffuser 1&4 maintenance is planned for 2025/26.

The plants have performed well in the 2024/25 monitoring period with no major issues. Midges are noted as an ongoing operational control issue for the Woodend and Kaiapoi wastewater treatment plants. The management approach for midges is discussed below under commentary on the insect management plan for the Kaiapoi consent CRC041049.

2.9 Summary of Compliance – CRC041162.2

A summary of compliance with condition CRC041162.2 is presented in Table 11 below.

Table 11: Summary if compliance for 2024/25 for consent CRC041162.2.

Consent condition	Description	Compliance
Condition 2	Discharge volume and rate	Full compliance
Condition 9	Ocean outfall discharge quality	Full compliance for all sampling and environmental limits
Condition 11	Discharge BODs, TSS, ammoniacal-N limits	Full compliance
Condition 12	Discharge microbiological limits	Full compliance
Condition 13	Woodend Beach and The Pines Beach	Full compliance
Condition 14	Visual observations	Full compliance
Condition 15 – 26	Water quality, surface sediments and benthic infauna	No testing was required this monitoring period – Full compliance
Condition 30	Complaints	Mostly compliant – 2 complaints about Kaiapoi Wastewater Treatment Plant odour/sludge management, both appear to have been resolved.

3 CRC041049 – DISCHARGE FROM KAIAPOI WWTP

3.1 Condition 2 – Groundwater Quality Monitoring

Condition 2 states the following:

> *"The consent holder shall monitor on-site bores 1, 2, and 3 and two new monitoring bores within 200 metres of the site, on a monthly basis for a period of up to two years after the introduction of Rangiora effluent into the wetland, thereafter at three monthly intervals. Samples from the monitoring shall be analysed for faecal coliforms, E. coli, nitrate-nitrogen and ammoniacal-nitrogen."*

The locations of the groundwater quality monitoring bores are shown in Figure 24. The regional groundwater flow is assumed to be towards the east in the direction of the coast. Bore 1 (labelled as WDC1) and Bore A are considered 'control' bores as they are located up-gradient of the WWTP, whereas bores 2, 3 (labelled as WDC2 and WDC3, respectively) and B are 'effects' bores as they are down-gradient from the WWTP. Effects of the WWTP may be evident in groundwater quality through a comparison of the 'control' bores with the down-gradient bores' water quality.

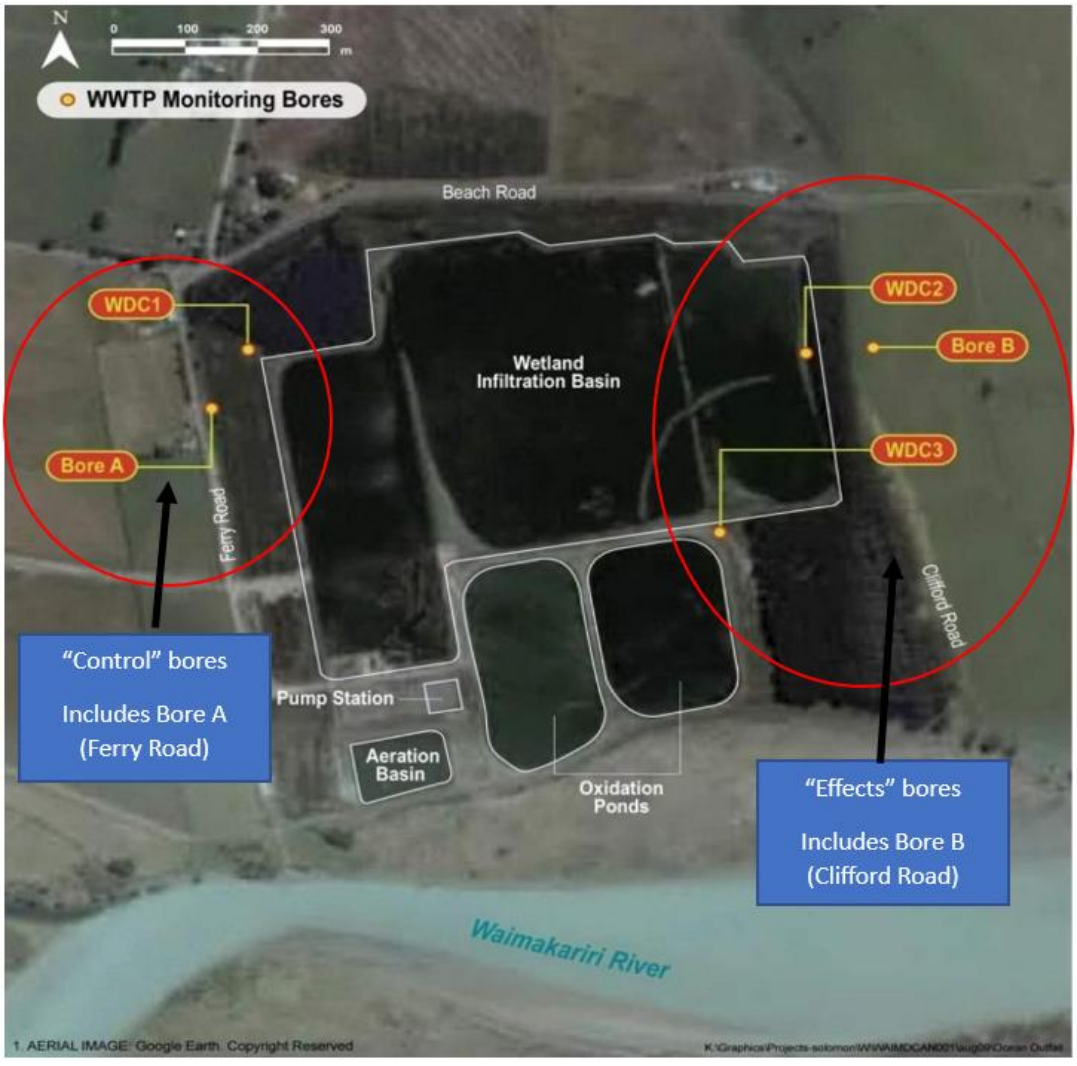


Figure 24: Location of Kaiapoi monitoring bores

Although the two-year period of monthly sampling required by Condition 2 was met as of February 2008, monthly sampling continued until February 2010 when three-monthly sampling commenced. Four samples were collected during the 2024/25 monitoring period (refer to Table 12). Therefore, the three-monthly sampling requirement was met.

3.2 Groundwater Monitoring Results

3.2.1 Nutrients

Nutrient concentrations in the five bores for the 2024/25 monitoring period are shown in Table 12. Nitrate nitrogen (nitrate-N) data is plotted in Figure 25 and ammoniacal-N data is plotted in Figure 26.

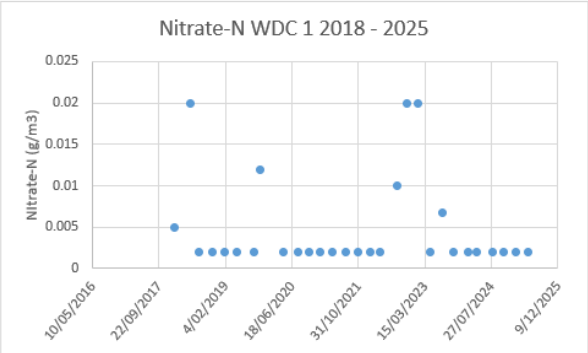
Table 13 below clarifies sample container names with sample sites – useful when referring to laboratory sheets and the supporting raw data spreadsheet (APPENDIX H). Table 13 has been provided due to historical data correction, however data sampled and analysed in the 2024/25 year is considered correct. Nitrate-N results show low detection levels in all monitored bores. Ammoniacal Nitrogen results show higher ammonia concentrations in the down-gradient "effects" bores, although concentrations decrease in the east towards the coast.

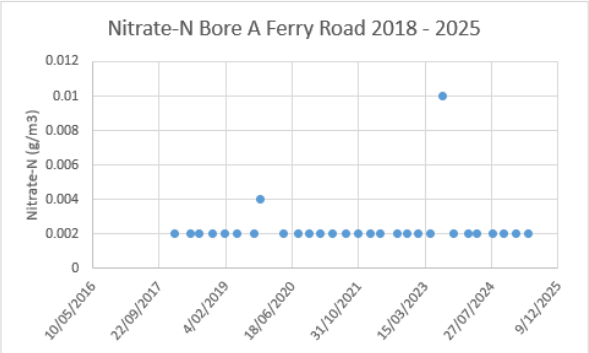
Table 12: Nitrate-N and ammoniacal-N concentrations in Kaiapoi WWTP groundwater monitoring bores: 1 July 2024 until 30 June 2025

Bore	Nitrate-nitrogen (g/m^3)				Ammoniacal-nitrogen (g/m^3)			
	Aug 24	Oct 24	Jan 25	May 25	Aug 24	Oct 24	Jan 25	May 25
WDC1 (control)*	< 0.002	< 0.002	< 0.002	< 0.002	<0.010	0.016	0.016	0.017
Bore A Ferry Road (control)	< 0.002	< 0.002	< 0.002	< 0.002	0.077	0.079	0.089	0.088
WDC2 (effect)	< 0.002	< 0.002	< 0.002	0.015	11.4	12.2	14.2	14.5
WDC3 (effect)*	<0.002	< 0.002	< 0.002	< 0.02	8.5	12.6	14.2	13.6
Bore B Clifford Road (effect)	< 0.02	< 0.002	0.007	<0.002	4.8	5.8	7.3	7.0

Table 13: Lab Sheet, Container Label and Site Map Reconciliation Table.

Bore Index – Map	Lab Sheet and Container Label Reference
WDC1 (control)	Kaiapoi Bore 1
Bore A Ferry Road (control)	Ferry Road
WDC2 (effect)	Kaiapoi Bore 2
WDC3 (effect)	Kaiapoi Bore 3
Bore B Clifford Road (effect)	Clifford Road





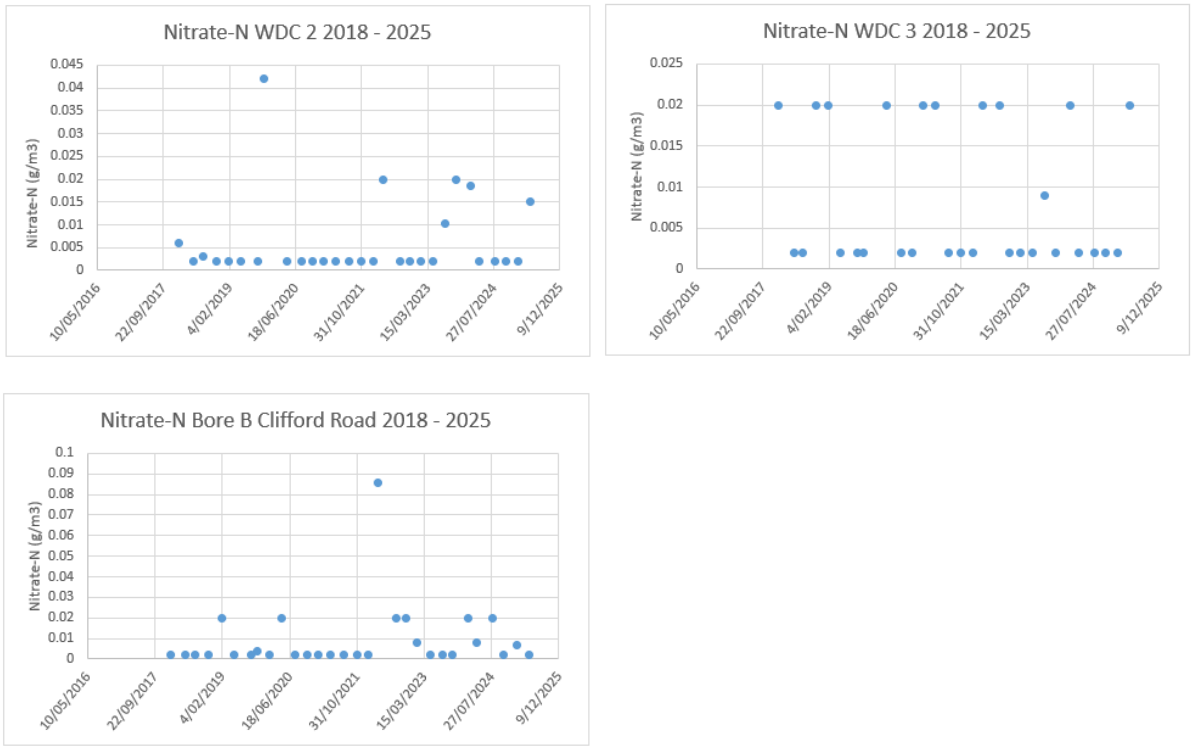
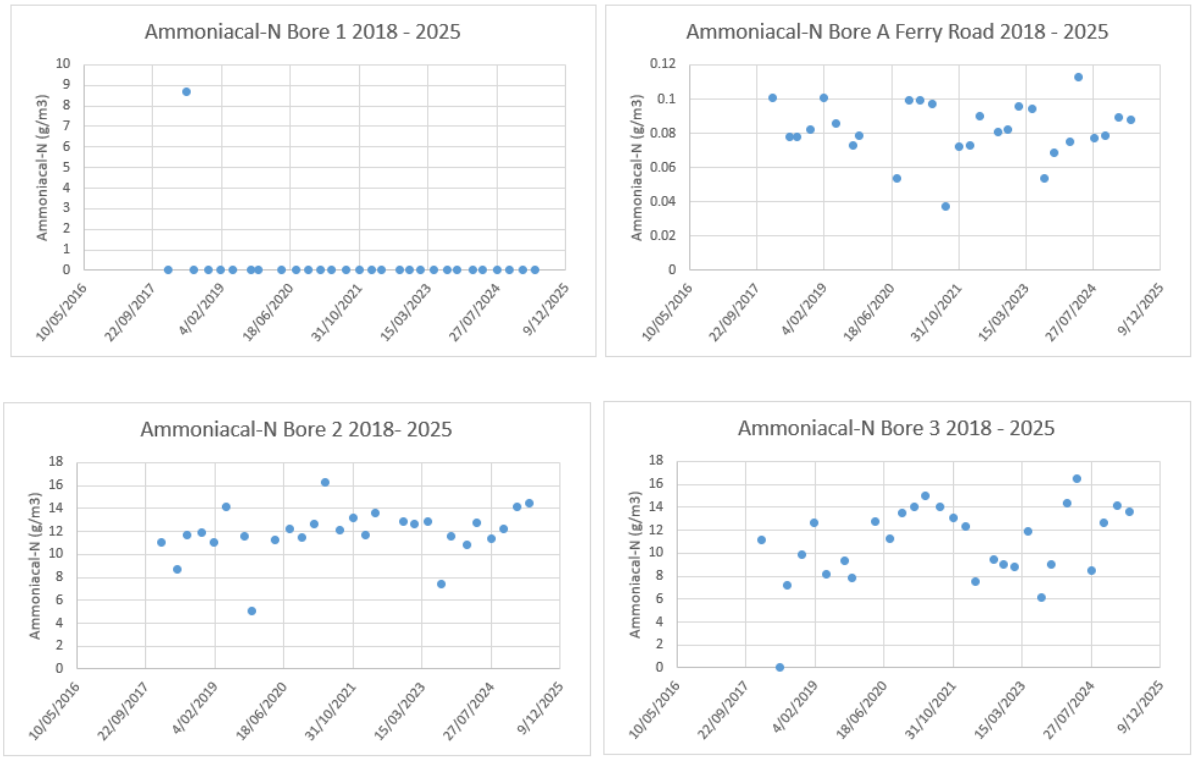


Figure 25: Nitrate-N concentrations in Kaiapoi WWTP monitoring bores between 2018 and 2025

There are low levels of detection and no trend apparent in detections or levels of Nitrate-N in Kaiapoi groundwater bores between 2018 and 2025.



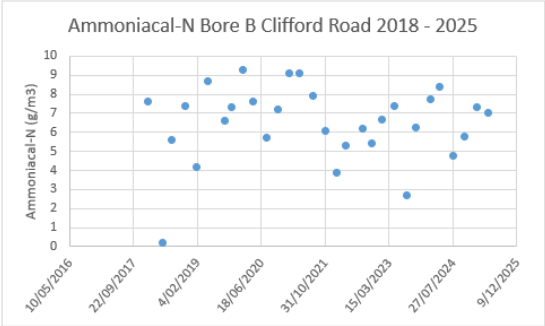


Figure 26: Ammoniacal-N concentration in groundwater monitoring bores from 2018 – 2025

There is a trend apparent for Ammoniacal-N concentration. This is shown in Figure 26 to be higher in the effects bores than the control bores. It is however lower in "effect" Bore B – Clifford Road to the east of the plant, when compared with "effect" bores WDC2 and WDC3. These WDC 2 and 3 bores are used to assess quality of shallow groundwater directly beneath the wastewater basin areas and have higher ammonia (within usual ranges of 6 g/m3 - 17 g/m3) in comparison with the "down-gradient" Clifford Road bore (within a lower usual ammonia range of 3 g/m3 – 10 g/m3).

The movement of shallow groundwater at the site is understood to be towards the east towards the coast. The reduced concentrations of ammonia in shallow groundwater east of the plant indicates a reduction in eco-toxicity of ammonia in shallow groundwater as it is conveyed away from the plant. This occurs through nitrification as ammonia is converted to nitrite-N and then nitrate-N which is less harmful to aquatic life. It is also noted that ammonia in the 3 effects bores is also within its historic ranges for each bore within the period 2018 to 2025 and there is no increasing trend.

3.2.2 Faecal indicator bacteria

E. coli and faecal coliform numbers measured during sampling in 2024/25 are tabulated in Table 13 and shown on Figure 27 and Figure 28, respectively.

E.coli and faecal coliform numbers in groundwater were mostly not detected in either the control or effects bores. However there are periodic spikes in both populations in the laboratory results for the effects bores. These unique spikes in these parameters are unique "one-off" events.

Table 14: Escherichia coli and faecal coliforms in Kaiapoi WWTP groundwater monitoring bores.

Bore	Escherichia coli (cfu/100mL)				Faecal coliforms (cfu/100 mL)			
	Jul 24	Oct 24	Jan 25	May 25	Jul 24	Oct 24	Jan 25	May 25
WDC1 (control)*	<1	<1	<1	<1	<1	<1	<1	<1
A Ferry Road (control)	<1	<1	1	<1	<1	<1	1	<1
WDC2 (effect)	<1	<1	<1	<1	<1	<1	<1	<1
WDC3 (effect)*	<1	<1	220	15	<1	<1	220	15
B Clifford Road (effect)	<1	<1	2	<1	<1	<1	2	<1

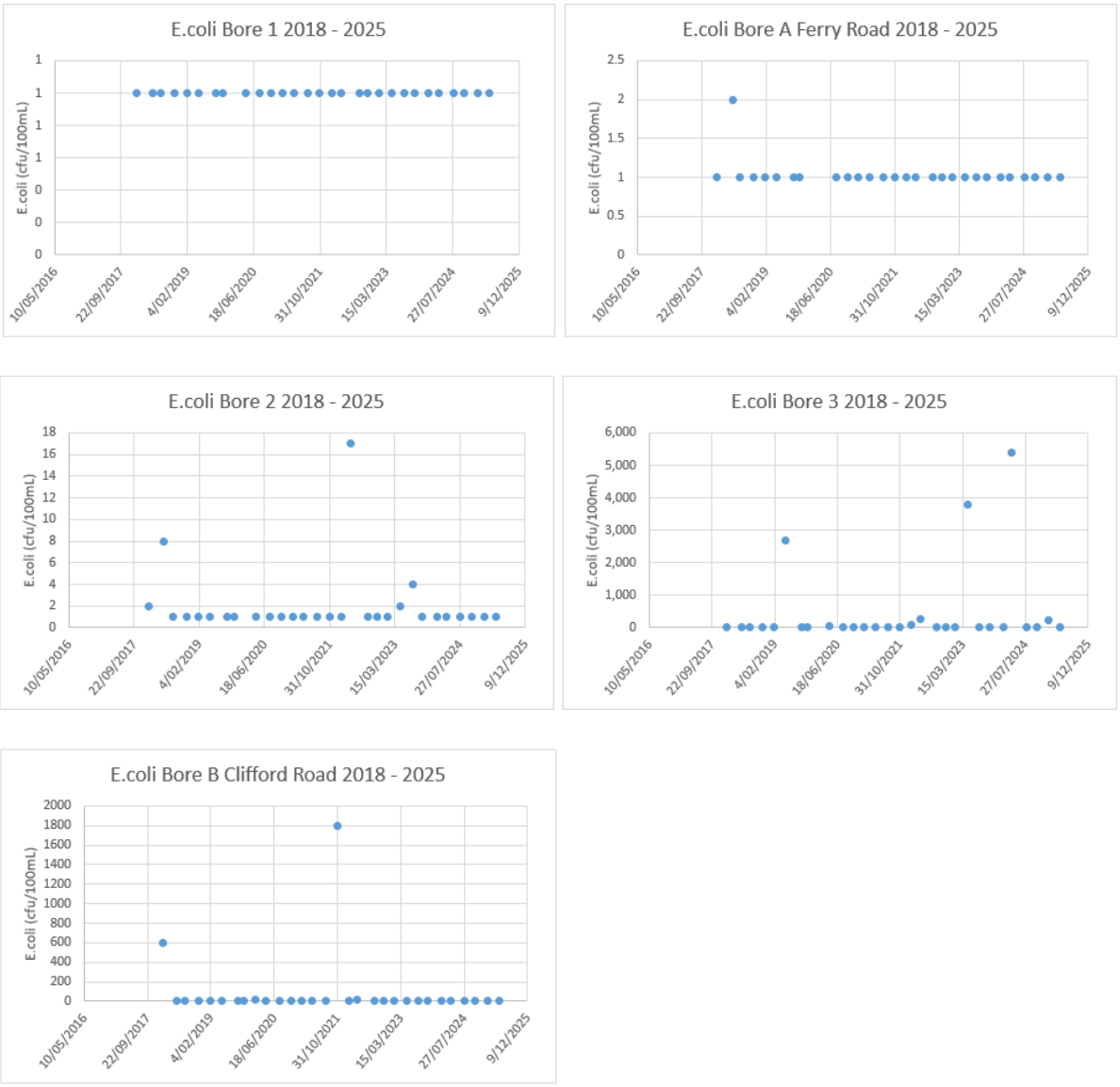


Figure 27: Escherichia coli in Kaiapoi WWTP monitoring bores between 2018 and 2025

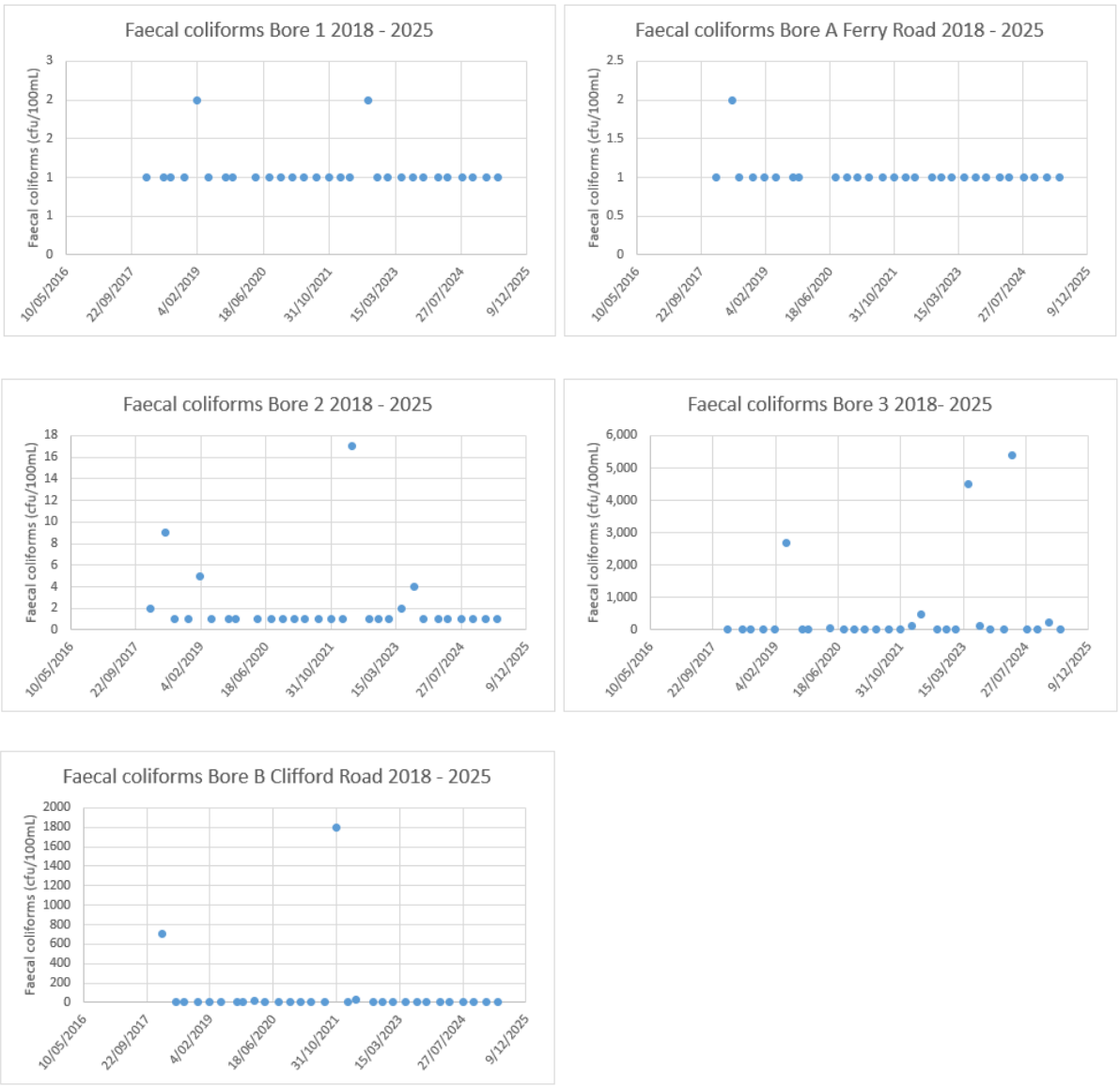


Figure 28: Faecal coliforms in Kaiapoi WWTP monitoring bores between 2018 and 2025

There are no increasing or reducing environmental trends in shallow groundwater down-gradient of the plant for faecal coliform population numbers or E.coli. However there have been periodic spikes in the "effect" bore data shown in Figures 27 and 28. These Figures illustrate there were no trends in each of these data sets between 2018 to 2025 for each parameter sampled. Figures 27 and 28 show all data reported for each site and parameter is within its historical range.

3.3 Condition 6 – Operating and Reporting

There were no major works undertaken at the Kaiapoi WWTP in the 2024/25 monitoring period. No major maintenance of the plant facilities was required or undertaken in the 2024/25 monitoring year.

Condition 6 (f) requires reporting on the activities undertaken under the insect control management plan. This is provided as follows:

Insect Control Management Plan:

The Council provides its insect surveillance methodology through (a) monitoring and responding to nearby resident complaints. The control methodology (b) is through maintenance of basin and wetland water levels, aeration levels and maintaining wetland water circulation plus planting, BTi spraying and shallow basin larval disruption dredging. Trigger levels (c) and consultation with the community (d) are monitored through service requests and evidence of public reports of insect complaints. Reporting (e) and review (f) are undertaken through annual reports to the Utilities and Roading Committee and reviews of the Kaiapoi and Woodend WWTP Midge Management Plan. A report to the Utilities and Roading Committee of Council from Sophie Allen, Water Environment Advisor, summarises recent midge management activities up until mid-2024 (240701105929[v2] see Appendix I (b)) and management actions are summarised in the Kaiapoi and Woodend WWTP Midge Management Plan (TRIM240801127732 – see Appendix I (a) (attached).

A check of insect complaints through the service request system was also undertaken for the period 1 July 2024 until 30 June 2025 (see Appendix Q). No insect complaints were received during that period.

A longer term historic check of insect complaints from 1.1.19 until 13.06.24 was also provided through the service request system (email from Maree Harris Customer Services Manager dated 13 June 2024 TRIM 240627104472 – available on request) which did not identify any relevant complaints. The Council is aware that insect complaints have not generally been picked up in the Council's service request system although formal reporting of all insect complaints through the service request system has now been put in place.

The Kaiapoi Wastewater Treatment Plant (WWTP) has received complaints regarding insect swarms from a neighbouring residential property via direct email or phone call to WDC staff. This species has been confirmed to be *Chironomus zealandicus*, a native non-biting midge that has caused nuisance issues at several wastewater treatment plants around New Zealand. Neighbours of the Woodend WWTP and Pegasus wetland complex have also noted the presence of midges, thought to be *C. zealandicus,* with formal complaints received in early summer of 2021 from Woodend WWTP neighbours after the removal of pine trees to the west of the WWTP.

The Kaiapoi and Woodend WWTP Midge Management Plan is an integrated midge management plan for the control of *C. zealandicus* that is being developed for the Kaiapoi and Woodend WWTPs based on practices employed at the two largest WWTPs in NZ (Mangere and Bromley, Christchurch) as well as methods detailed in literature.

Condition 6(g) also requires the Council to report on activities undertaken under the groundwater monitoring plan. This is provided as follows:

Groundwater Monitoring Plan:

From the Groundwater Monitoring Plan, the measurement points (a) are control bores "WDC 1" and "Ferry Road" and effects bores "WDC 2", "WDC 3" and "Clifford Road". The measurement programme (b) is quarterly sampling which is ongoing every year. The consultation with adjacent property owners occurs through Council monitoring any complaints received via any service request. However there are no down-gradient private groundwater drinking water supply bores that could be affected by this activity and no complaints about shallow groundwater quality have been received. The reporting (d)

and review (e) continue to be undertaken through the Annual Compliance Report from looking at results of the sampling programme described above.

Groundwater depth levels are now being recorded in Infrastructure Data and results for the last 2 years are provided in the attached spreadsheet for the sample rounds from October 2023 until the present (see APPENDIX J– Kaiapoi WWTP Bores Quarterly). This bore water depth data is recorded in the spreadsheet for each bore but was not collected prior to October 2023.

There are no proposed changes to the frequency and type of measurements being taken during groundwater monitoring which is considered sufficient to identify trends over time and assess any changes in groundwater quality. As discussed above there is no increasing trend in any monitored parameter and effects of ammonia in shallow groundwater reduce moving east from the plant.

The above statements indicate the Council is now fully meeting the requirements of this condition.

3.4 Summary of Compliance – CRC041049

Table 15: Summary of compliance for 2024/25 under CRC041049.

Consent condition	Description	Compliance
Condition 2	Groundwater monitoring	Full compliance
Condition 6	Annual reporting	Full compliance

4 CRC168391 – FROM WOODEND WASTEWATER TREATMENT PLANT

4.1 Overview

The Woodend WWTP is located approximately 23 km north of Christchurch (Figure 29) and receives wastewater from Woodend, Waikuku Beach, Pegasus, Tuahiwi, Ravenswood and Woodend Beach. The WWTP consists of two inlet screens, three aeration basins, two oxidation ponds and two constructed wetlands. Treated wastewater passes through an ultraviolet (UV) disinfection system before being pumped to the ocean outfall in Pegasus Bay between The Pines Beach and Woodend Beach, north of the Waimakariri River mouth.

Figure 29: Location of Woodend WWTP and groundwater monitoring sites.

Resource consent compliance for the period 1 July 2024 to 30 June 2025 (the monitoring period) has been assessed using monitoring data provided by WDC. WDC undertakes additional monitoring at the WWTP which, although is not required by the consent, is included in this report where relevant.

4.2 Conditions 5 – 6: Seepage

4.2.1 Record keeping for daily volumes

The resource consent requires WDC to keep records of daily volumes received by the Woodend WWTP and daily volumes discharged to the ocean outfall. As shown in Figure 30, the Woodend WWTP receives influent wastewater from six wastewater pump stations. These are:

- Gladstone Road pump station
- Petries Road pump station
- Woodend Beach pump station
- Waikuku Beach WWTP
- Pegasus Main Street pump station
- Mary Ellen Street pump station
- Kesteven Place pump station

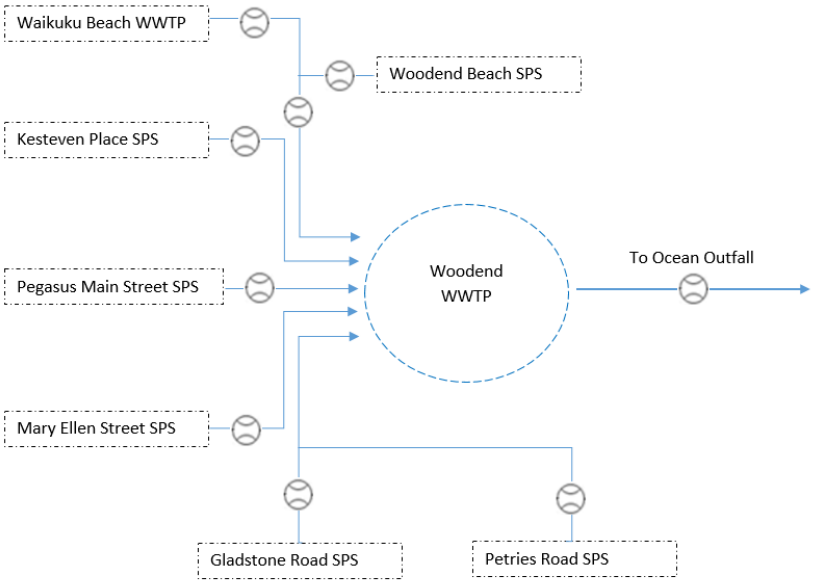


Figure 30: Schematic Woodend sewer network

Inflow records from the electromagnetic flow meters at Gladstone Road, Petries Road, Woodend Beach, Waikuku Beach WWTP, Pegasus Main Street, Mary Ellen Street and Kesteven Place for the monitoring period were recorded by the WDC SCADA system. These volumes are presented as the combined daily inflow volumes mapped alongside rainfall data from the Woodend, Gladstone weather station for the corresponding period on the same figure for comparison.

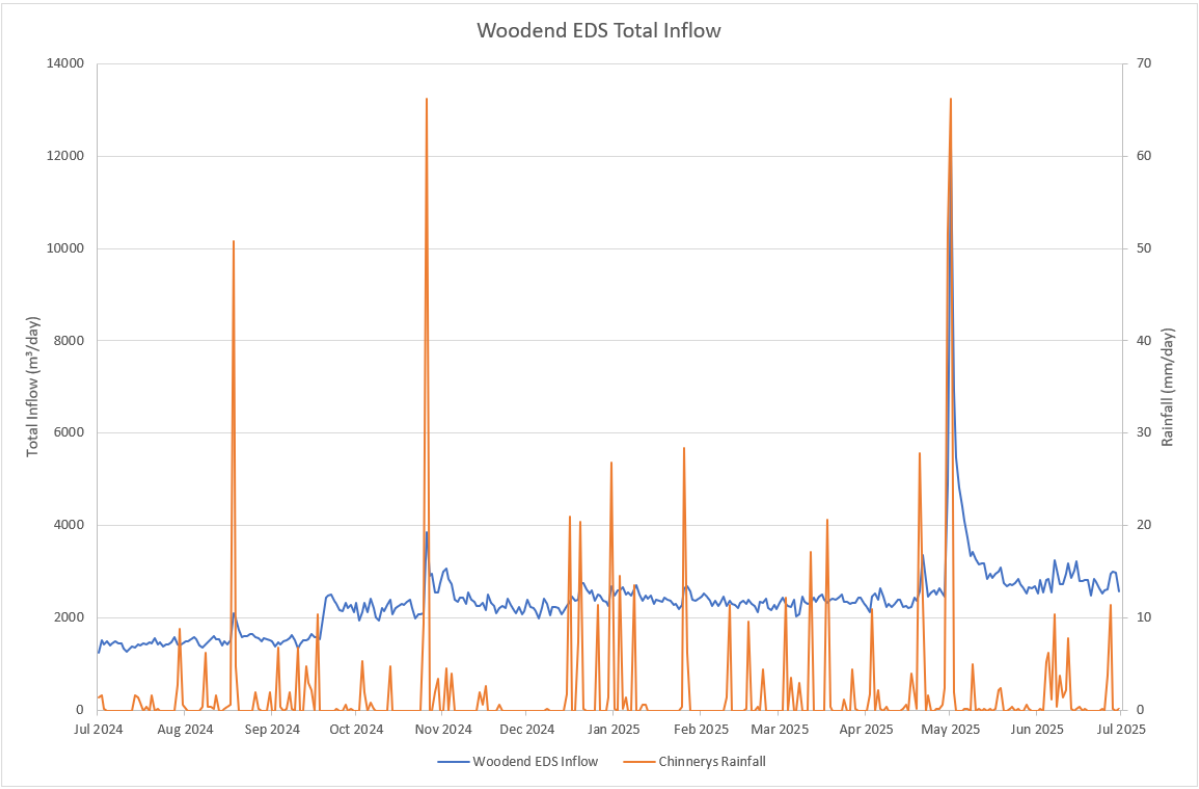


Figure 31: Daily inflow volumes July 2024 – June 2025 plotted with rainfall at Woodend.

Outflow data is measured by an electromagnetic flow meter and logged via a SCADA system. Flows from Woodend WWTP to the ocean outfall for the 2024/25 monitoring period are shown in Figure 32. Flow data for the Woodend WWTP is presented in APPENDIX K. As explained in the section above on Ocean Outfall outflow data, the Council lost data from the Woodend EDS from 1 July 2024 to 8 July 2024, which is illustrated by the "dip" in results in the below outflow graph. There is no way of trying to derive the outflow from the plant over that period and the reason for the outage is unknown. This has caused an "overstatement" of seepage in the seepage graph on the following page.

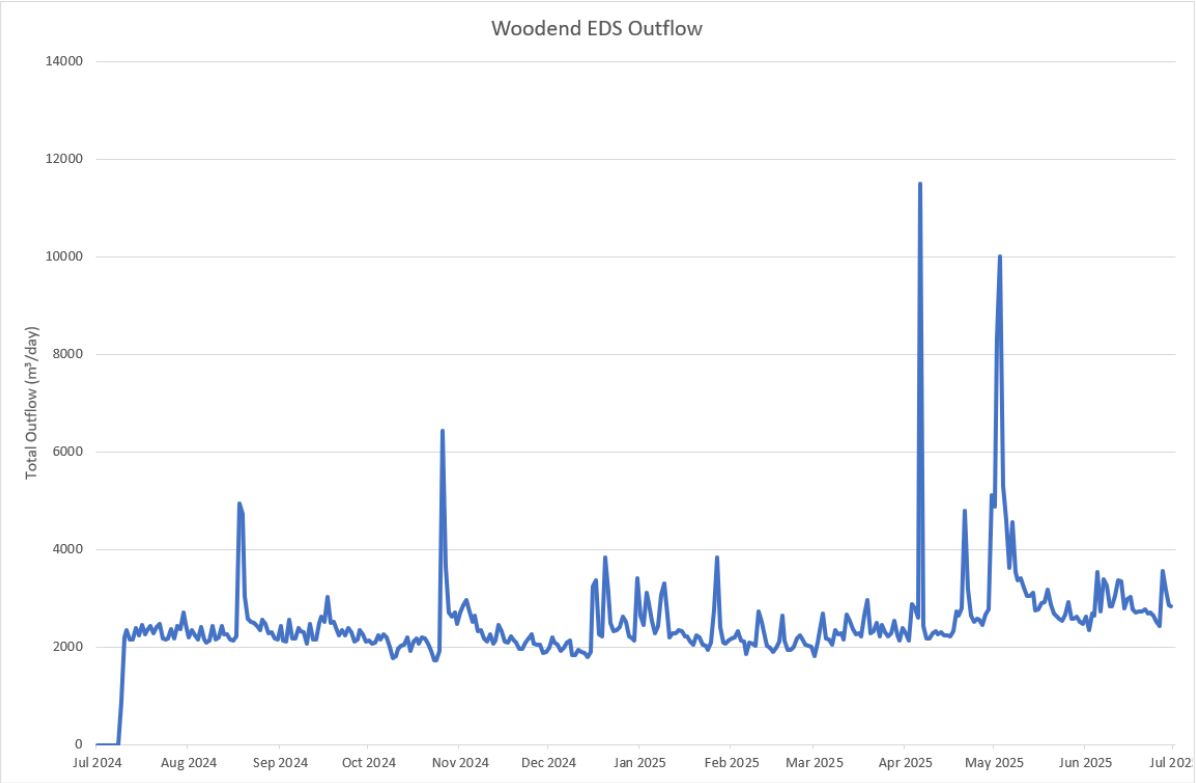


Figure 32: Daily outflow volumes (m^3/day) from Woodend WWTP to ocean outfall July 2024 to June 2025

4.2.2 Daily seepage discharge volumes

The resource consent states that the volume of treated wastewater discharged via seepage should be calculated by subtracting the volume of wastewater discharged to the ocean outfall from the volume of wastewater received at the WWTP. Calculated seepage volumes for the monitoring period are shown in Figure 33.

The prescribed method for calculating the discharge via seepage does not account for:

- Pond / Wetland attenuation and fluctuating water levels
- Rainfall
- Evaporation from pond/wetland water surfaces and evapotranspiration from wetland plants
- Pond buffering (this can be significant during changes in plant operation)

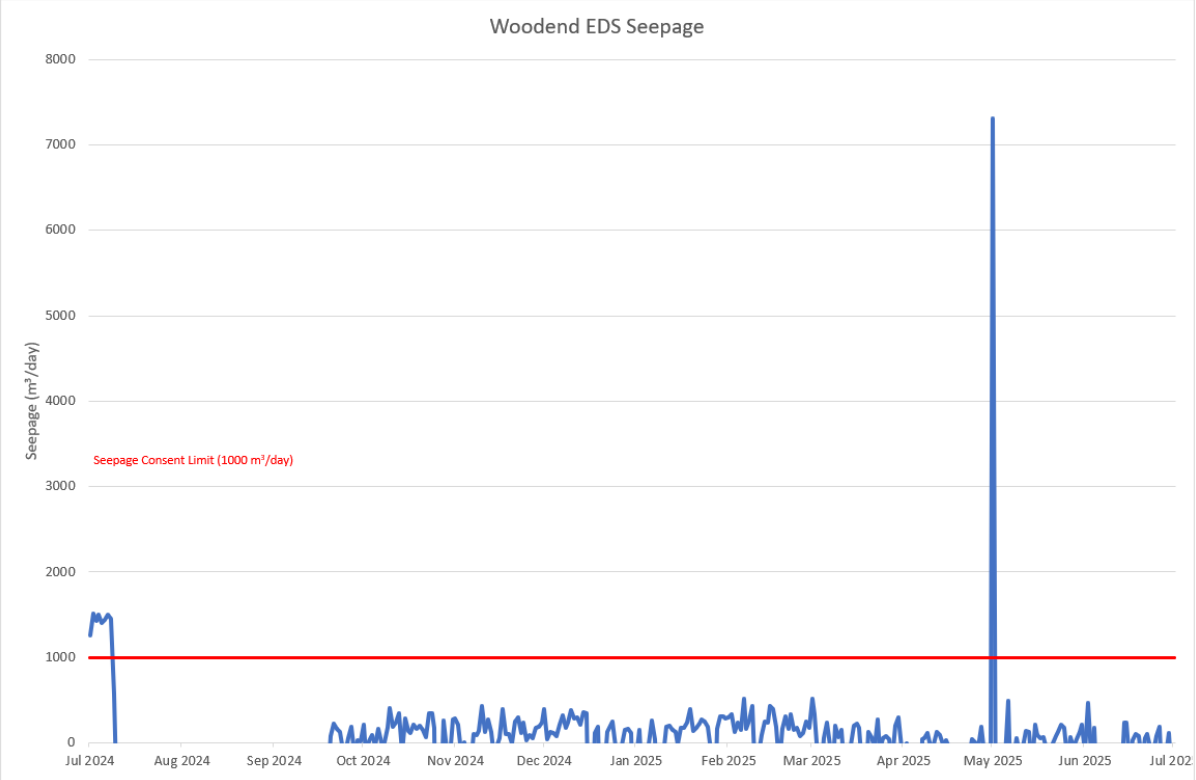


Figure 33: Calculated daily seepage volumes (m^3/day) July 2024 to June 2025

Condition 5 states that;

> "the volume of treated effluent discharged to land via seepage shall not exceed 1000 cubic metres per day."

The data shows that over the 2024/25 monitoring period WDC has generally complied with the daily seepage volume consent limit of 1,000 m^3/day with only two apparent exceedances. The calculated seepage volumes using the method prescribed in the consent exceeded the consented limit before 8 July 2024. However no data was available from the Woodend EDS pump station outflow which means seepage cannot be accurately calculated for the period 1 July to 8 July as only the inflow was measured.

There was an apparent exceedance on 1 May 2025 (refer Figure 33). The attached spreadsheet APPENDIX K raw data shows Woodend EDS inflow greatly exceeding Woodend EDS outflow on 1 May 2025, but on 2 and 3 May 2025 the trend had reversed with outflow significantly exceeding inflow on those 2 days (also refer Figures 31 and 32).

The "exceedance" on 1 May is considered to be a result of pond buffering, where the effluent levels within the plant are managed to pass flows slowly through the plant, so that inflows discharge around 1 - 2 days later. This is considered to represent a high storage period/event in the ponds prior to release of the inflow by 3 May, rather than a seepage event on that date. This is a common occurrence following periods of significant rainfall. For this event the difference between the inflow and outflow under these conditions is due to a temporary (around 24 – 48 hour) increase in storage levels within the ponds and wetlands rather than any actual discharge to land via seepage. The data demonstrates the timeframe of conveyance of effluent through the plant between the inlet and outlet during the treatment process.

The “Graphs weekly / monthly” tab balances the inflow and outflow that occurs during periods of greater rainfall including rainfall on the surface area of the ponds and provides trends in net inflow and outflow. This removes the effect of rainfall peaks and “spikes” in the inflow and outflow data. It shows on most weeks when “seepage” occurs during periods of low, average or modest rainfall the Woodend WWTP weekly inflow / outflow totals had a net loss of combined seepage / evaporation of up to only 2,000m3 per week. This is less than the seepage weekly total consent limit of 7,000m3 per week (1,000m3 per day over 7 days).

The extended periods of negative “seepage” shown in the “Seepage and Evaporation Loss / Rainfall gain (m3)” weekly and monthly graphs show the effect of higher rainfall on the surface area of the ponds and associated lower evaporation rates over these winter months or other wet cool periods of the year. This includes the negative “seepage” during April / May 2025 when there was high rainfall which implies less evaporation.

The data indicates that on average over the 2024/25 monitoring period verified, actual compliance with the daily seepage volume consent limit has been achieved.

4.3 Conditions 9 to 11 – Groundwater Monitoring

4.3.1 Monitoring requirements

Condition 9 of the resource consent requires two monitoring bores (south-east and west) to be sampled at three-monthly intervals. The south-east bore is located down-gradient of the WWTP and the west bore is located up-gradient (Figure 29 above and Figure 34 below).

Figure 34: Location of south-east down-gradient (M35/8773) and south–west up-gradient (M35/11301) groundwater monitoring bores

In accordance with the Groundwater Monitoring Plan (WDC 2008), which is required under Condition 15, WDC began monitoring two domestic bores in February 2007, located on the Robinson and McKenzie properties directly to the west (up-gradient) of the WWTP (also shown in Figure 29 above). Although the bores on these properties are consented for domestic water supply, both properties

have an alternative water source supplied by WDC where they now receive a restricted water supply (2 m^3/day) from the Woodend water supply.

4.3.2 Depth to groundwater

Depth to groundwater was measured in the south-east and west bores on 4 occasions during the 2024/25 monitoring period (Table 16) (APPENDIX L).

The reason for the absence of groundwater depth data results for the McKenzie and Robinsons bores is that these are private water supplies, not able to be readily accessed by Council.

4.3.3 Groundwater quality

Groundwater samples were collected and analysed for nitrate-N, ammoniacal-N and faecal coliforms, as per Condition 11. The results are shown in Figures 35 and 36 and summarised in Table 16 below (see raw data in APPENDIX M). There are no consent limits for these parameters.

Table 16: Groundwater quality monitoring at Woodend WWTP from July 2024 to June 2025.

Sample	Bore	Top Water Level (m)	Ammoniacal-N (g/m^3)	Nitrate-N (g/m^3)	Faecal coliforms (cfu/100ml)
26 July 2024	McKenzie (up-gradient)	N/A	< 0.010	< 0.002	<1
	Robinsons (up-gradient)	N/A	< 0.010	< 0.002	<1
	West (up-gradient)	3.6	0.94	< 0.02	<1
	South-east (down-gradient)	2.9	3.0	0.014	<1
21 October 2024	McKenzie (up-gradient)	N/A	<0.010	<0.002	<1
	Robinsons (up-gradient)	N/A	<0.10	<0.02	<1
	West (up-gradient)	3.3	0.90	<0.02	<1
	South-east (down-gradient)	2.89	2.8	0.120	<1
27 January 2025	McKenzie (up-gradient)	N/A	<0.010	<0.002	<1
	Robinsons (up-gradient)	N/A	0.024	0.006	>30,000
	West (up-gradient)	3.42	0.85	<0.02	<1
	South-east (down-gradient)	2.93	3.2	0.027	<1
28 April 2025	McKenzie (up-gradient)	N/A	<0.010	<0.002	<1
	Robinsons (up-gradient)	N/A	0.012	0.002	<1

	West (up-gradient)	3.68	0.88	<0.02	<1
	South-east (down-gradient)	2.89	3.3	<0.02	<1

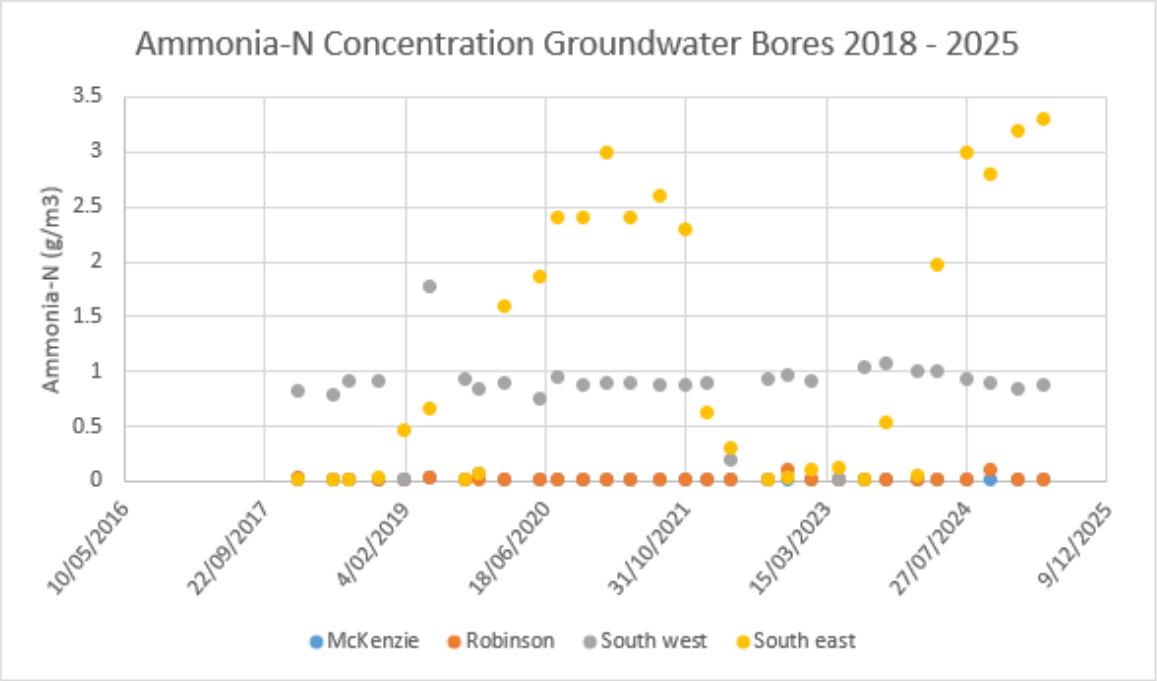


Figure 35: Ammoniacal-N concentration on groundwater monitoring bores from 2018 to 2025

Ammoniacal-N concentrations between 2018 and 2025 are periodically elevated in the down-gradient bore. However ammonia is at a consistent low level in the west (up-gradient bore) of often just above or just below 1 g/m3 (as shown in APPENDIX M - raw data).

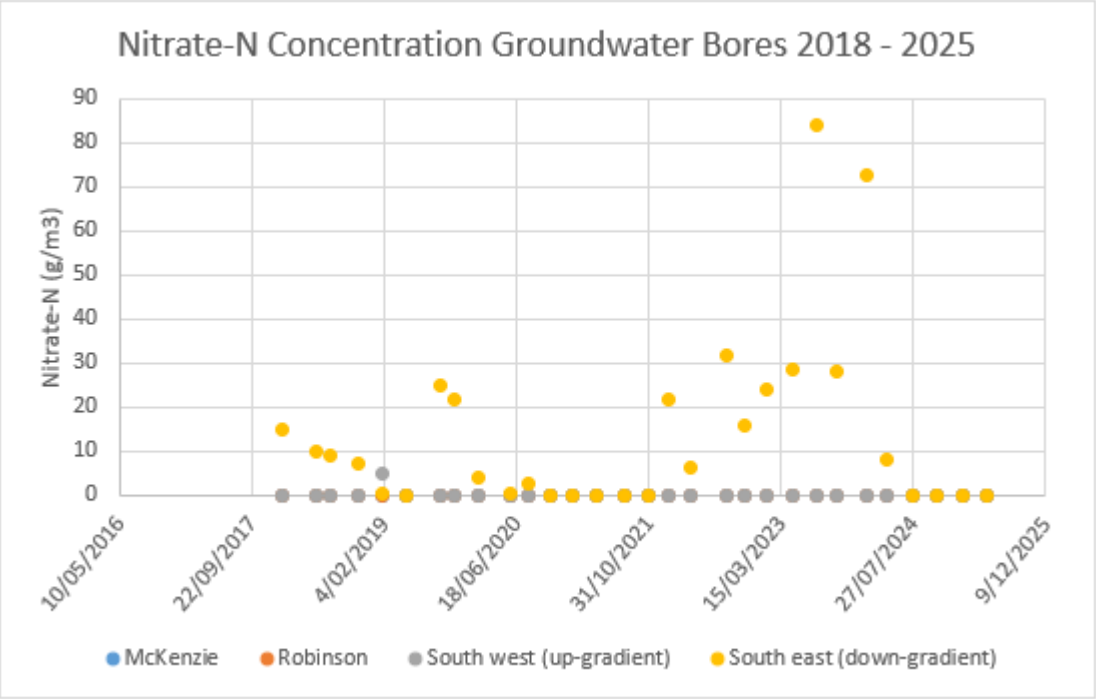


Figure 36: Nitrate-N concentration in groundwater monitoring bores from 2018 to 2025

As can be seen from these graphs and above table, Nitrate-N levels are elevated in the groundwater bore down-gradient of the Woodend WWTP, but mostly below detection in the control bores. There was a recent spike in nitrate-N in the down-gradient groundwater during the 2023/24 year which has however dropped back to low levels in the latest 2024 and 2025 samples. There is no known effect on private groundwater drinking water supply bores in the Woodend Beach area from the high Nitrate-N in the groundwater in proximity to the wastewater plant. For instance, the Woodend Beach Holiday Park groundwater latest groundwater sample on 4 March 2024 shows Nitrate-N not detected in the bore drinking water (TRIM 240325046751 – see APPENDIX 0). A further 2025 sample at this bore is currently in progress – results were received on 2 September 2025 (TRIM 250918178498) with Nitrate–N not detected.

A longer term review of results from sampling Nitrate – N in this bore since 2006 shows periodic elevated levels of Nitrate – N in groundwater with an earlier peak occurring in 2006 to 2008 with a further, lesser peak in 2023/24. However levels appear to have reduced from the middle of 2024 until present.

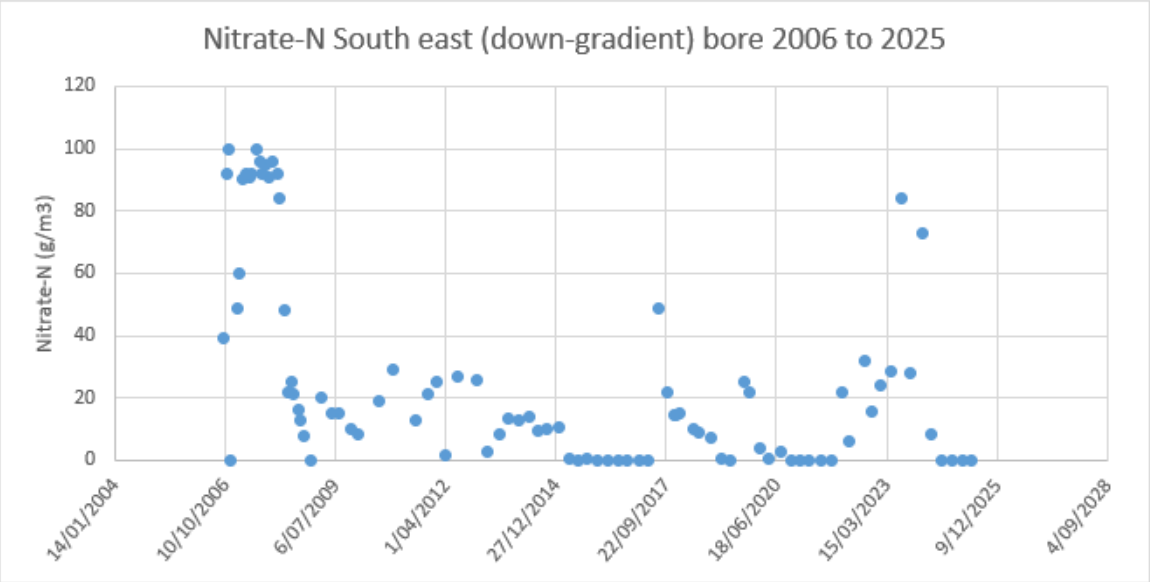


Figure 37: Nitrate-N concentration in down-gradient monitoring bore from 2006 to 2025

Faecal coliforms have been detected periodically in the Robinson bore. Any results lower than detection are graphed as one.

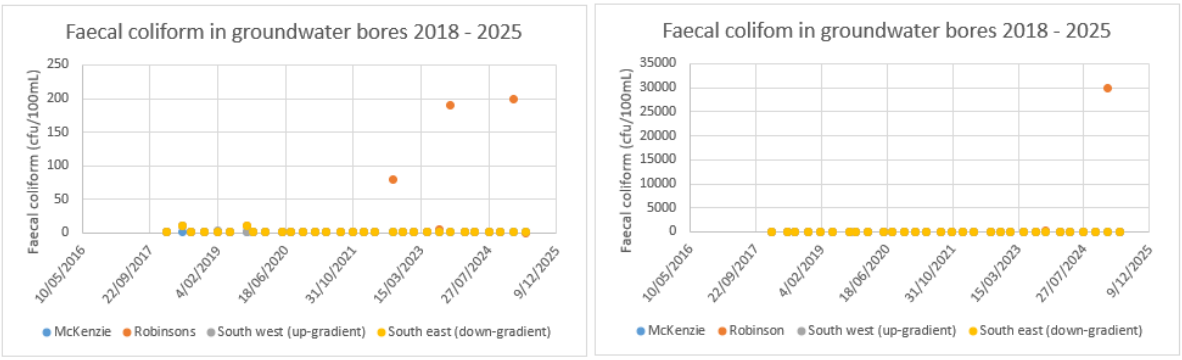


Figure 38: Faecal coliform numbers in groundwater monitoring bores from 2018 to 2025 (graph on left is capped at 200 cfu/100mL to illustrate the range in smaller numerical results)

4.4 Operations and Maintenance

During the 2024/25 monitoring period there were no major capital works. The plant operation and maintenance has been standard with no significant unplanned maintenance required.

4.5 Summary of Compliance – CRC168391

Record keeping of wastewater volumes complied with the requirements of the resource consent and enabled seepage volumes to be calculated. Analysis of results shows seepage volumes for the 2024/25 monitoring period met the requirements of Conditions 5 and 6.

Groundwater monitoring records for 2024/25 were complete. Water quality samples were collected on four sample dates at all bores. Therefore, the requirements of Conditions 9, 10 and 11 were met in full.

The groundwater monitoring undertaken in 2024/25 indicates that:

- The long-term trend in Ammoniacal-N in the south east bore is for levels to fluctuate from "below detection" in some years to elevated above 2 g/m3 but below 3.5g/m3 in other years. There is a long-term fluctuation tendency in this data rather than any notable increase or decrease trend over time (see APPENDIX M "Woodend WWTP Groundwater" for long-term data history records).
- Nitrate-N concentrations in the down gradient bore are periodically elevated compared to the up-gradient bores although the recent spike has dropped back to low levels from July 2024 until present. On review of data over an 18 year period the concentrations of Nitrate-N have fluctuated with the most recent spike during 2022/23 and 2023/24 appearing to be currently significantly reducing.
- Prior to 2009 Nitrate-N levels were even higher than recent levels at up to 100 g/m^3 (see APPENDIX M "Woodend WWTP Groundwater" for data history records). It appears Nitrate-N in down-gradient groundwater has had cyclical high periods over several years from 2006 until the present.

Overall, WDC has achieved compliance with the conditions of resource consent CRC168391.

5 CRC031724 – DISCHARGE TO JOCKEY BAKER CREEK

5.1 Monitoring and Reporting Requirements

Resource consent CRC031724 was granted in 2004 to drain groundwater from subsoil drains and toe drains around the infiltration wetland into the coastal marine area of Jockey Baker Creek in the vicinity of Ferry Road, Kaiapoi.

In the event a discharge occurs into Jockey Baker Creek an alarm is raised in SCADA to inform the operators the event has occurred. If this occurs samples are to be taken as per Conditions 5 and 6.

The consent CRC031724 has been rarely exercised since the commissioning of the Ocean Outfall. During high rain events, the discharge via sub-surface drains to the Jockey Baker Creek has become effectively obsolete since the commissioning of the ocean outfall in 2006.

The consent has however been retained by the Council because it allows a discharge of any surplus stormwater from a 'toe' drain that surrounds the wetlands. This discharge occurs only during high rainfall events, when the toe drain flow exceeds 5 litres a second. This is expected to be a rare event and the discharge will be almost entirely storm run-off, not effluent.

Retention of the consent ensures the Council can continue to divert any surplus runoff away from the plant's effluent treatment system so as to not overwhelm it and assist it to avoid any reduction in effectiveness of the wastewater treatment.

There was no discharge into Jockey Baker Creek during the 2024/25 monitoring period.

6 CRC145027 – DESLUDGING AT RANGIORA WASTEWATER TREATMENT PLANT

6.1 Monitoring and Reporting Requirements

Resource consent CRC145027 was granted in October 2014 to permit the discharge of dewatered sludge removed from wastewater Pond 1A at the Rangiora WWTP to land. Sludge is suction dredged, then piped via a closed system to geotextile bags for storage and dewatering.

The existing geotextile bags are slowly dewatering, Council will be assessing long term options for disposal of the biosolids in the future.

The monitoring requirements are set out in Conditions 16 and 17:

Condition 16

"On completion of the pond dredging operation and commencement of the dewatering phase, the consent holder shall either:

a) Sampling the drainage water from the dewatering/dewatered sludge at six monthly intervals for the following parameters:
Arsenic
Copper
Cadmium
Chromium
Lead
Mercury
Nickel
Zinc, with all metals in the soluble form; and
Total Nitrogen
Ammoniacal Nitrogen
Dissolved Reactive Phosphorus; or

b) A subsequent sampling regime and timeframe that has received written approval from the Chief Executive of the Canterbury Regional Council or delegate shall be undertaken."

Condition 17

"The consent holder shall either:

a) Monitor the downstream monitoring bore M35/9177 at six monthly intervals (generally September and April) for the following parameters:
pH
Ammoniacal Nitrogen
Total Nitrogen
Metals (Zinc, Copper and Arsenic in the soluble form); or

b) A subsequent sampling regime and timeframe that has received written approval from the Chief Executive of the Canterbury Regional Council or delegate shall be undertaken."

The reporting requirements are set out in Condition 20 and state that the annual report is to include the following details:

- The discharge point of drainage water.
- Findings of the three monthly inspections of the liner, bund and drainage.
- Results of laboratory analyses undertaken in the previous 12-month period.
- Details of any spills.

6.2 Monitoring Results

6.2.1 Drainage water discharge point

All discharge from the discharge chamber is currently pumped back into Pond 1A at the Rangiora WWTP. There is no intention to move the discharge of drainage water to land discharge. Drainage water will be permanently discharged to the treatment plant for further treatment.

6.2.2 Three monthly inspections

Inspections of the sludge pond are done on a weekly basis, which is more regular than the three-monthly frequency required by the resource consent. There have been no reports of any issues associated with the liner, pump, bund or drainage from the sludge pond during the 2024/25 monitoring period.

6.2.3 Laboratory analyses

Samples from the sludge pond pump chamber and M35/9177 were collected on the following dates:

- 26 August 2024 (TRIM 240905150736 and TRIM 240905150734)
- 26 March 2025 (TRIM 250404058747 and TRIM 250404058746)

If the discharge is below the trigger levels, the drainage water can be discharged direct to ground. Condition 16 of the resource consent requires two samples to be collected annually, at six monthly intervals from the sludge pond pump chamber. Thus the monitoring requirements of Condition 16 were met during the 2024/25 monitoring period. The table below shows that trigger levels were not exceeded for any of the discharge values from the pump chamber.

Table 17: Dewatering sample results and comparison with trigger values.

Parameter (g/m^3)	26 August 2024	26 March 2025	Trigger Levels[1]
Dissolved Arsenic	<0.02	<0.02	0.2
Dissolved Cadmium	0.033	0.0186	
Dissolved Chromium	< 0.010	<0.010	
Dissolved Copper	1.82	1.54	
Dissolved Lead	0.010	0.01	
Dissolved Mercury	<0.00008	<0.00008	
Dissolved Nickel	0.191	0.108	1.6
Dissolved Zinc	17.4	7.8	30
Total Nitrogen	37.0	30	224
Ammoniacal-N	6.5	1.0	30
Dissolved Reactive Phosphorus	0.023	0.017	

Condition 17 of the resource consent requires two samples to be collected annually from groundwater bore M35/9177, at six monthly intervals. Therefore, compliance with the requirements of Condition 17 were met in full during the 2024/25 monitoring period.

The results are shown in Table 17 and compared with 80% of the relevant maximum allowable value (MAV) reported in the New Zealand Drinking-Water Standards (NZDWS). Condition 14 states that should subsequent groundwater monitoring under Condition 17 show an upward trend extending

[1] If monitoring data is below the trigger level drainage from the liner can be discharged direct to ground.

over four consecutive sampling events, or a trigger level reaches 80% of the relevant MAV, then the discharge of dewatering water to land must cease and be returned to the treatment pond.

The table below shows all parameters recorded concentrations less than their respective 80% of MAV (where applicable), while pH was within the recommended range (MoH 2008). No trends are evident from review of the groundwater data in the below table.

It is noted that WDC is not discharging to land so groundwater quality will not be affected by the sludge pond.

Table 18: Groundwater monitoring results for Bore M35/9177.

Parameter	30th Aug 2022	28th Feb 2023	30 August 2023	28 March 2024	26 August 2024	26 March 2025	80% of MAV[2]
pH	7.5	7.3	7.3	7.4	7.2	7.5	7.0-8.52
Total Nitrogen	0.47	1.21	0.91	0.98	0.94	0.88	-
Ammonia cal-N	0.052	<0.010	< 0.010	< 0.010	< 0.010	< 0.010	1.2
Soluble Arsenic	<0.0010	<0.0010	< 0.0010	< 0.0010	< 0.0010	<0.0010	0.008
Soluble Copper	<0.0005	<0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	1.6
Soluble Zinc	<0.0010	<0.0010	< 0.0010	< 0.0010	0.0011	0.0011	1.2

6.2.4 Spills

There were no spills during the 2024/25 monitoring period.

6.3 Operations and Management

There have been no significant operational changes that have an effect on CRC145027. The long-term plan for the discharge is to continue to return the drainage water back to the treatment plant. Discharge to ground will not be undertaken. Options to obtain a variation to the consent need to be assessed to provide for final disposal of the dewatered sludge, if required in future.

6.4 Summary Compliance – CRC145027

The monitoring and sampling results completed during the 2024/25 monitoring period fully comply with Conditions 16 and 17.

[2] Maximum Allowable Value as defined in the New Zealand Drinking Water Standards as at time of granting the consent.

7 CRC173124 – DISCHARGE CONTAMINANTS TO AIR - RANGIORA WASTEWATER TREATMENT PLANT

7.1 Monitoring and Reporting Requirements

The following is an extract from the consent that outlines the sampling requirements.

Condition 2

The wastewater treatment ponds and aeration basin shall be operated so that the dissolved oxygen concentrations of the wastewater in the ponds are maintained at levels of no less than two grams per cubic metre, based on the ten percentile of annual results during the hours of measurement as stated in Condition 3.

Condition 3

Dissolved oxygen levels shall be measured in each pond between the hours of 11am and 2pm on one day in every seven day period.

Condition 4

The consent holder shall maintain a record of dissolved oxygen measurements which shall include the following information:

- The date and time the measurements were taken; and
- Water temperature at the time the measurements were taken; and
- Dissolved oxygen concentrations; and
- Identification of the pond in which the measurements were taken.

The following graph shows Dissolved Oxygen in the Rangiora WWTP Ponds (Pond 1A, Pond 1B, Pond 2 and Pond 3), for which a minimum level of 2 mg/L is required to be maintained for the 10 percentile of annual results.

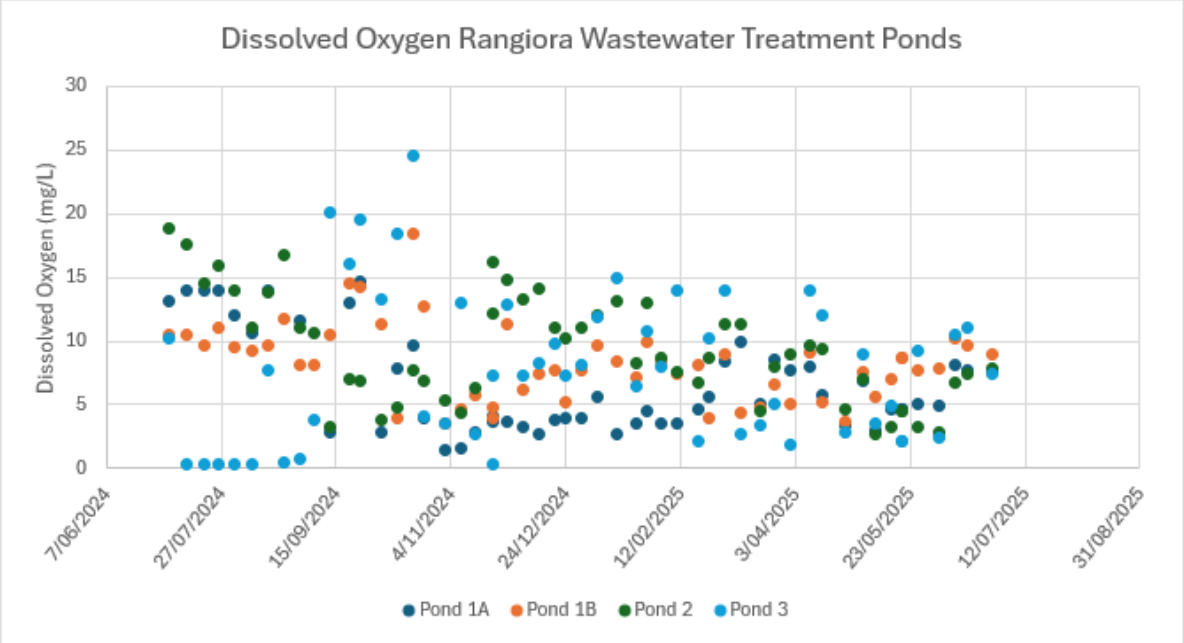


Figure 39: Dissolved Oxygen in Rangiora WWTP ponds July 2024 to June 2025

The 10 percentile of annual results for each pond for the 2024/25 reporting year is:

2.85 mg/L	Pond 1A
4.50 mg/L	Pond 1B
3.96 mg/L	Pond 2
0.40 mg/L	Pond 3
2.81	**All ponds average**

The data shows that Pond 1A, Pond 1B and Pond 2, each individually met the measure with 10 percentile of dissolved oxygen (DO) above 2mg/L. However Pond 3 did not meet the measure, with the 10 percentile of annual results below 2mg/L. The average DO mg/L across all ponds met the measure (see APPENDIX N for raw data records).

This is a significant improvement in DO performance of the ponds in comparison with the 2023/24 year. The improved calibration and use of optical meters is considered to contribute to the improved performance.

The non-compliant results for Pond 3 were all recorded prior to 5 September 2024, after which date all DO samples in this pond were above the required 2mg/L level. The issue may have been caused by poor aeration within Pond 3 over those weeks in July and August 2024. It may have been resolved by an aerator upgrade in the aeration basin in late 2024, which may have improved aeration in the basin which flowed through into the downstream ponds.

Within APPENDIX N non-compliant DO (mg/L) results <2 mg/L for Pond 3 are highlighted in yellow.

Condition 3 was mostly met as most measurements of DO were taken between 11am and 2pm on the day these were measured (see APPENDIX N, column A for daily sample times).

Condition 4 was met, as the spreadsheet APPENDIX N shows the operators visit the sites weekly and record the data that is electronically recorded. This data has been forwarded to ECAN electronically and is available upon request. It is noted some of the samples were not taken within required timeframes. WDC has now put in place measures to ensure compliance with Condition 3 as far as possible in the future, sampling within 11am until 2pm as far as achievable within available resources.

Note that Conditions 9, 10, 11, 12 are no longer applicable. These relate to the using of sprays that were used to remove NH4. These have been decommissioned.

7.2 Odour Complaints

There were no odour complaints for the 2024/25 monitoring period for the Rangiora wastewater treatment plant (see Complaints Register in APPENDIX Q).

7.3 Summary of Compliance

Compliance was not achieved for CRC173124 due to low oxygen levels in the Rangiora wastewater treatment pond 3 during July and August 2024. This is considered likely due to poor aeration within that pond during that time which now been addressed.

8 CRC168388 – DISCHARGE CONTAMINANTS TO AIR - WOODEND WASTEWATER TREATMENT PLANT

8.1 Monitoring and Reporting Requirements

The following conditions outline the annual reporting requirements for consent CRC168388.

Condition 5

5. The dissolved oxygen concentration of effluent in the aeration ponds (1A, 1B and 1C) [renamed aeration basin 1, 2 and 3 in the table and graph below] and settling ponds (2A and 2B) [renamed settlement ponds 1 and 2 below] as shown in Plan CRC168388A attached to this consent shall:

a. Be measured in each pond on one day in every seven day period;
b. Be maintained at levels of no less than two grams per cubic metre, based on the ten percentile of annual results, between the hours of 11am and 2pm; and
c. Not have a concentration of less than two grams per cubic metre for more than three consecutive measurements in accordance with condition (5)(a).

Condition 6

6. The consent holder shall maintain a record of dissolved oxygen measurements in accordance with condition (5)(a) which shall include the following information:

a. The date and time the measurements were taken; and
b. Water temperature at the time the measurements were taken; and
c. Dissolved oxygen concentrations; and
d. Identification of the pond in which the measurements were taken.

Condition 7

A copy of the record referred to in condition (6) shall be retained and provided to the Canterbury Regional Council annually by 31 August each year.

The spreadsheet in APPENDIX P, attached to this report, provides the Dissolved Oxygen sampling records as required by Condition 5, Condition 6 and Condition 7. The Council complies with the recording and reporting requirements of conditions 6 and 7.

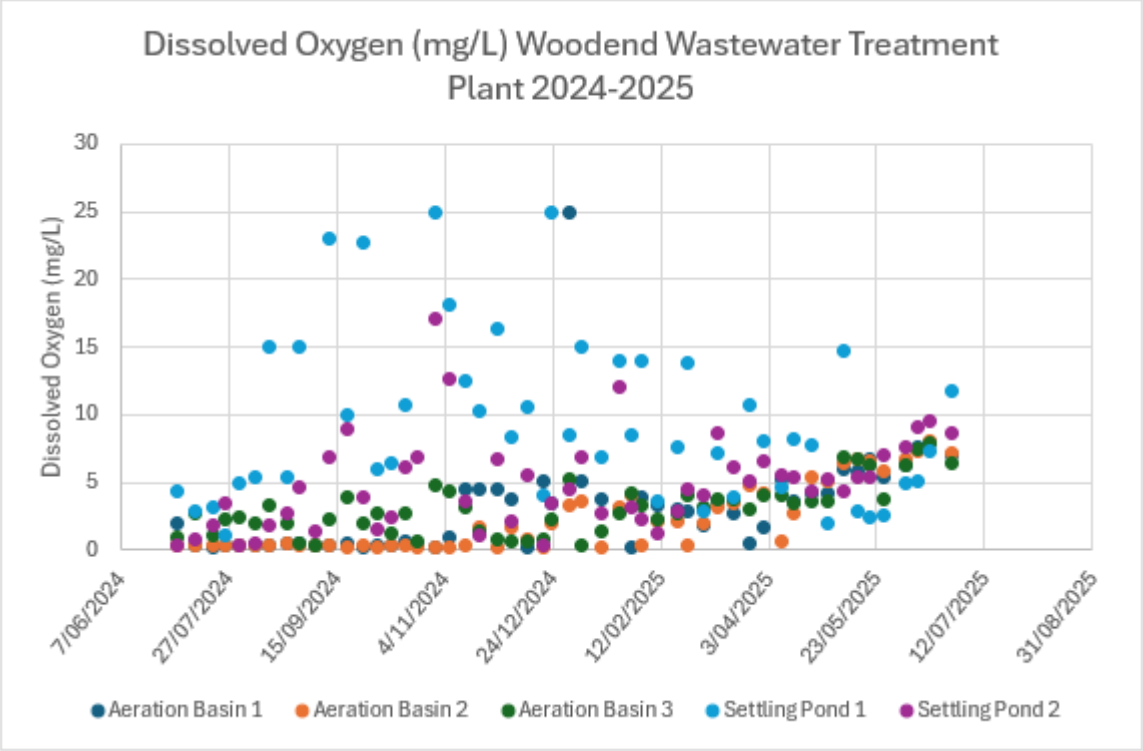
For condition 5(b), the sampling shows most of the ponds do not meet the minimum dissolved oxygen level of no less than 2mg/L for the 10 percentile of annual results, with the exception of Settling Pond 1 which achieves the measure. Most of the samples are taken within the required timeframe of 11am – 2pm in all ponds, so this requirement is mostly compliant. For 5(c), there is low dissolved oxygen of less than 2mg/L for more than 3 consecutive measures in all 3 of the aeration basins, but the measure is met in the 2 settling ponds. There is thereby overall partial compliance demonstrated with the requirements of condition 5, as seen in the below table and graph.

The following table shows the Dissolved Oxygen (mg/L) in each of the Woodend wastewater ponds sampled.

The 10 percentile of annual results for each pond for the 2024/25 reporting year is:

0.29mg/L	Aeration Basin 1
0.27mg/L	Aeration Basin 2
0.72mg/L	Aeration Bason 3
2.90mg/L	Settling Pond 1
1.16mg/L	Settling Pond 2

The below graph indicates the relative performance of the ponds through the 2024/25 year. It appears there was insufficient aeration occurring in several of the basins as shown below during the second half of 2024, when DO levels were generally lower across the ponds than in 2025. The Council is now looking at increased monitoring at both Kaiapoi and Woodend WWTPs by increasing sampling and also installing permanent DO probes.



As seen in these results, there is only partial compliance through the basins and ponds with the DO minimum level of 2mg/L, with the exception of Settling Pond 1 which is compliant on all measures (APPENDIX P). The spreadsheet shows periods of low dissolved oxygen periodically, but particularly from July to November 2024 with results tending to improve from the start of 2025. Results also become marginally improved as the wastewater is conveyed through the treatment train (aeration basin 3, settlement pond 1 and 2 have higher DO performance that aeration basin 1 or 2).

8.2 Summary of Compliance

Compliance was not achieved for CRC168388 due to low oxygen levels in the Woodend wastewater treatment ponds. This is considered likely due to a faulty meter and failed calibration issue or potentially due to low aeration of the ponds during the second half of 2024. These non-compliant samples indicate likely ongoing issues with the optical meter sampling location or pond aeration levels and performance which may require further investigation.

REPORT

Oxford Sewer Scheme – Annual Compliance Monitoring Report 2024 - 2025

Waimakariri District Council

September 2025

Table of Contents

1. INTRODUCTION

1.1. Background

Waimakariri District Council (WDC) operates a wastewater treatment plant (WWTP) at Oxford, which serves 924 properties as at the 2024/25 rates strike. The WWTP is located on the north side of the Eyre River on High Street, while the irrigation disposal field is located on the south side of the Eyre River on Woodstock Road (refer Figure 1).

The WWTP was constructed in 1999 and has undergone a number of upgrades, including the addition of a wet weather flow holding pond in 2014 and modifications to the Modified Ludzack-Ettinger activated sludge process in 2018 to improve the aeration system.

The Oxford scheme is operated under a number of resource consents from Canterbury Regional Council (CRC) also known as Environment Canterbury (ECan), which are listed in Table 1 along with their respective reporting requirements and level of compliance for the 2024/25 monitoring year.

Table 1: Oxford Sewer Scheme Resource Consents

Consent	Activity	Reporting	Compliance
CRC961013	To discharge contaminants to air	Refer to Section 2.0 of this report	Fully compliant
CRC144561	Land use consent for the establishment of a sewage storage basin	Refer to Section 3.0 of this report	Non-compliant. The holding pond spilled over on 4 and 5 May 2025 and the hydraulic retention 10 day timeframe limit was breached following that rainfall event.
CRC184787	To discharge contaminant into land to water	Refer to Section 4.0 of this report	Mostly compliant. The daily volume discharged exceeded the consent limit of 1,382 m3/day on 6 May 2025. An issue with SCADA recording of effluent application depth to land occurred during November 2024 and June 2025, which has been subsequently corrected. Recorded effluent application depth to land outside of

	these dates is compliant.

1.2. Report Scope

The scope of this report is to summarise the annual compliance with the three consents that the Oxford sewer scheme is operated under, these include; CRC961013, CRC144561 and CRC184787. These consents do not require an annual monitoring report be submitted to Environment Canterbury, however this report has been prepared as good practice and will be submitted to ECan for information purposes.

WAIMAKARIRI DISTRICT COUNCIL

Figure 1 - Oxford Sewer Scheme

0 175 350 525 700
Metres
Scale 1:15000 @ A3

2. CRC961013 – DISCHARGE TO AIR

2.1. Overview

This consent covers the discharge of contaminants into air at or about map references L35:447-655 (i.e.: the irrigation disposal field on Woodstock Road) and L35:458-663 (i.e.: the WWTP on High Street) from a sewage effluent treatment and disposal system.

Consent compliance for the period 1 July 2024 through to 30 June 2025 ('the monitoring period'), has been assessed by WDC.

2.2. Condition 1 – Irrigation of Effluent

Condition 1 states:

"There shall be no spray irrigation of effluent onto land within 15 metres of a property boundary protected by a tree shelter belt, within 150 metres of a property boundary where there is no intervening tree shelter belt and within 150 metres of any dwelling house."

The irrigation fields are located 40m from the closest property boundary to the east (refer Figure 2 below). There is a shelter belt on this eastern boundary therefore compliance with Condition 1 is achieved. The irrigation fields are located more than 150m from the western and southern boundaries. The northern property boundary is within the 150m buffer, however this is publicly owned river bed land that is managed and leased out by Environment Canterbury. The closest dwelling is located just over 400m away to the south of the irrigation fields as shown in Figure 2 below.

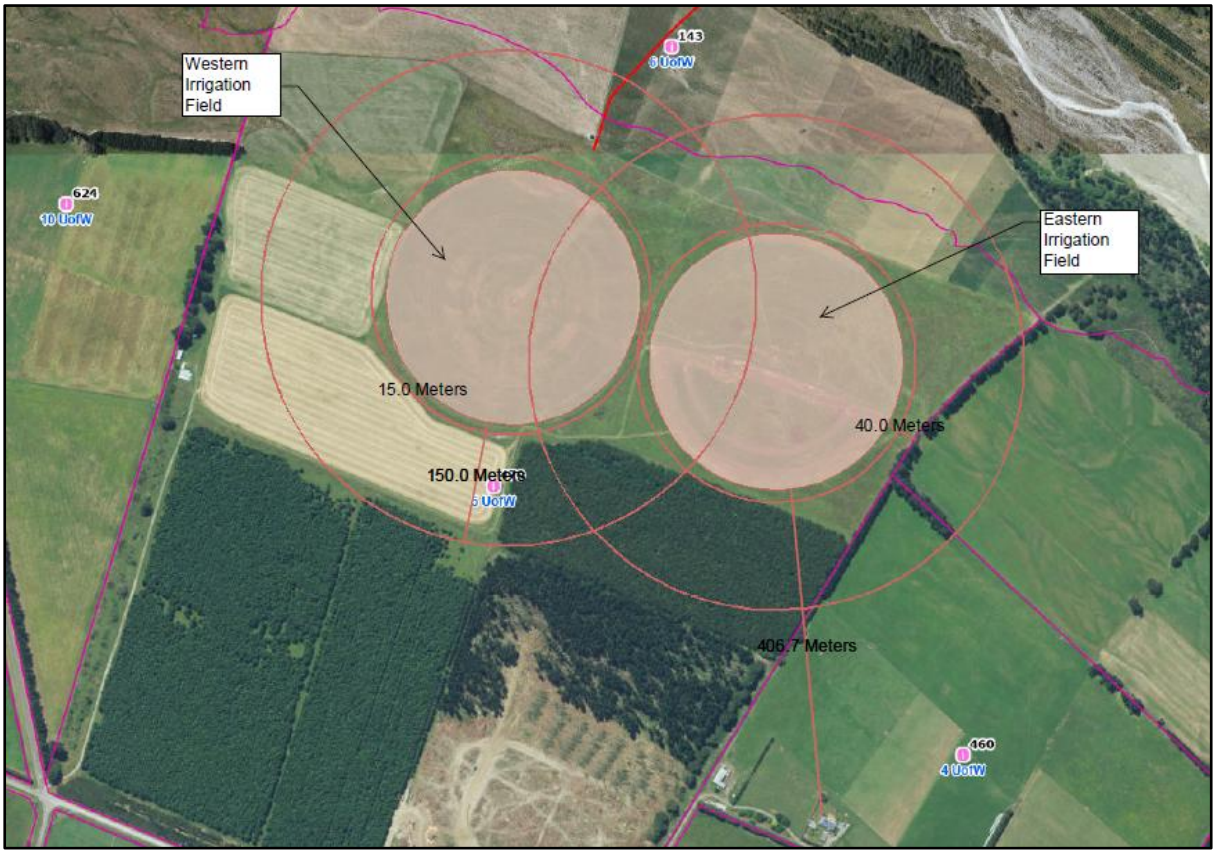


Figure 2. Irrigation disposal fields and required buffers

2.3. Conditions 2 – 5: Odour Management

Condition 2 states the following:

> *"All collection bins containing solids removed from the effluent shall be covered to prevent odorous emissions."*

All bins used for collection of screenings from the WWTP are covered to prevent odour emissions.

Condition 3 states the following:

> *"The sludge holding tank shall be mechanically aerated to minimise odorous emissions."*

The sludge holding tank is mechanically aerated to minimise odour emissions.

Condition 4 states the following:

> *"The discharge shall not cause an odour, which is determined to be objectionable or offensive by an enforcement officer of the Canterbury Regional Council, beyond the property boundary of the consent holder."*

No objectionable or offensive odours or other issues were observed during the 2024/25 monitoring period (refer APPENDIX G sewer service request record 2024/25). This did not identify any odour complaints from the Oxford plant during the 2024/25 year. Condition 5 states the following:

> *"A record of complaints relating to odour emissions from the site shall be maintained, and shall include:*
>
> *(a) location of where odour detected by complainant;*
> *(b) date and time when odour detected;*
> *(c) a description of wind speed and wind direction when odour detected by complainant;*
> *(d) the most likely cause of odour detected; and*
> *(e) any corrective action undertaken by the consent holder to avoid, remedy or mitigate the odour detected by complainant.*
>
> *This record shall be provided to the Canterbury Regional Council on request."*

No complaints relating to odours from the Oxford plant were received during the 2024/25 monitoring period (refer Appendix G) – sewer complaints record which did not identify any odour complaints from the Oxford plant during this year.

2.4. Summary of Compliance – CRC961013

A summary of compliance with consent CRC961013 is presented in Table 2 below.

Table 2: Summary of compliance for 2024/25 for consent CRC961013

Consent condition	Description	Compliance
Condition 1	Irrigation of effluent	Fully compliant
Conditions 2-5	Odour management	Fully compliant

3. CRC144561 – HOLDING POND LAND USE

3.1. Overview

This land use consent covers the establishment of a storage basin to store sewage and for associated earthworks.

Consent compliance for the period 1 July 2024 through to 30 June 2025 ('the monitoring period'), has been assessed by WDC.

3.2. Conditions 1-4, 7-9, 10(b), 12(a), 15 and 16 – Holding Pond Construction

Conditions 1, 2, 3, 4, 7, 8, 9, 10(b), 12(a), 15 and 16, relate to the construction of the holding pond.

Condition 1 states:

> *"The use of land shall be only for:*
>
> *(a) excavation associated with the construction of a Wet Weather Holding Pond; and*
> *(b) the collection, storage and treatment of municipal domestic wastewater and stormwater ('wastewater')."*

Excavation works for the holding pond were completed in 2014. The land use at the site is for the collection storage and treatment of municipal domestic wastewater and stormwater.

Condition 2 states:

> *"The Wet Weather Holding Pond shall be located as shown on Plan CRC144561A, which forms part of this consent."*

The wet weather holding pond has previously been validated by Environment Canterbury to be located within the consented area as identified in CRC144561A (refer TRIM 220713119239).

Condition 3 states:

> *"The Wet Weather Holding Pond shall be sealed with a material of low permeability such that any seepage from these structures onto or into land does not exceed an average rate of one millimetre per day."*

The holding pond is lined with a 1.5 mm thick High-Density Polyethylene (HDPE) membrane liner. The construction methodology report (refer TRIM 141121127984[v2]), provided as a requirement of Condition 4, demonstrated that the HDPE pond liner ensures that the average seepage rate from the pond does not exceed 1mm per day.

Condition 4 states:

> *"The consent holder shall provide to the Canterbury Regional Council a report on the method of construction of the Wet Weather Holding Pond that demonstrates compliance with the seepage rate referred to in condition (3). The report shall be supplied to Canterbury Regional Council, Attention RMA Compliance and Enforcement Manager, prior to the first use of the wastewater storage facility."*

The construction methodology report (refer TRIM 141121127984[v2]) demonstrated compliance with the average seepage rate from the pond does not exceed an average rate of 1mm per day. The

report required by this condition was provided to Environment Canterbury on the 25th November 2014, which was prior to the storage pond first being used (refer TRIM 150112003139).

Condition 7 states:

> *"The Wet Weather Holding Pond shall not be located within:*
>
> *(a) 20 metres of any wetland, surface water body or artificial watercourse; or*
> *(b) 50 metres up gradient in relation to groundwater flow and 30 metres in any other direction of a bore."*

The holding pond is not located within 20m of a wetland surface water body or artificial watercourse. The nearest bore (L35 0668) is located more than 70m away. This bore is owned by Waimakariri District Council and is used for observation purposes.

Figure 3. Holding pond location

Condition 8 states:

> *"Construction works authorised by this consent shall:*
>
> *(a) be limited to the area defined on Plan CRC144561A; and*
> *(b) not be carried out on Sundays or public holidays; and*
> *(c) from Monday through to Friday only occur between the hours of 7.30am and 5.30pm inclusive; and*
> *(d) on Saturdays only occur between the hours of 9am and 5pm inclusive.*

The construction works were completed in 2014 and the post-construction compliance monitoring report by Environment Canterbury confirmed compliance with this consent (refer TRIM 150112003139).

Condition 9 states:

> *"Within one month of the installation of the Wet Weather Holding Pond, the consent holder shall provide to the Canterbury Regional Council, Attention: RMA Compliance and Monitoring, a copy of the Odour Management Plan. The Odour Management Plan shall be incorporated into the Oxford Wastewater Treatment Plant's Operations Manual and shall include the specifications detailed in Appendix A.*

The Odour Management Plan was provided to Environment Canterbury on the 19th December 2014 (refer TRIM 141219141903), as an amendment to the existing operations manual for the wastewater treatment plant.

Condition 10(b) states:

> *"The Wet Weather Holding Pond shall:*
>
> *(b) be constructed in accordance with the specifications on Plan CRC144561B."*

The wet weather holding pond has previously been validated by Environment Canterbury to be constructed in accordance with the specifications on Plan CRC144561B (refer TRIM 150112003139).

Condition 12(a) states:

> *"The spillway incorporated into the design for the Wet Weather Holding Pond shall:*
>
> *(a) be constructed in accordance with the design specifications on Plan CRC144561B page 2 of 2;"*

The spillway from the wet weather holding pond has previously been validated by Environment Canterbury to be constructed in accordance with the design specifications on Plan CRC144561B (refer TRIM 220713119239).

Condition 14 states:

> *On the completion of works:*
>
> *(a) All disturbed areas shall be stabilised and/or revegetated; and*
> *(b) All spoil and other waste material from the works shall be removed from site.*

The site was appropriately reinstated following completion of the works back in 2014.

Condition 15 states:

> *In the event of any discovery of archaeological material:*
> *(a) the consent holder shall immediately:*
> *i. Cease earthmoving operations in the affected area and mark off the affected area; and*
> *ii. Advise the Canterbury Regional Council of the disturbance; and*
> *iii. Advise the New Zealand Historic Places Trust of the disturbance.*
> *(b) If the archaeological material is determined to be Koiwi Tangata (human bones) or taonga (treasured artefacts) by the New Zealand Historic Places Trust, the consent holder shall immediately advise the office of the appropriate runanga (office contact information can be obtained from the Canterbury Regional Council) of the discovery.*
> *(c) If the archaeological material is determined to be Koiwi Tangata (human bones) by the New Zealand Historic Places Trust, the consent holder shall immediately advise the New Zealand Police of the disturbance.*

(d) Work may recommence if the New Zealand Historic Places Trust (following consultation with runanga if the site is of Maori origin) provides a statement in writing to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager that appropriate action has been undertaken in relation to the archaeological material discovered. The Canterbury Regional Council shall advise the consent holder on written receipt from the New Zealand Historic Places Trust that work can recommence.

No archaeological material was encountered during the construction works back in 2014.

3.3. Conditions 10(a), 11, 12(b), and 13 – Holding Pond Operation

Conditions 10(a), 11, 12(b), and 13, relate to the operation of the holding pond.

Condition 10(a) states:

"The Wet Weather Holding Pond shall:

(a) be used for storage of excess flows relating to extreme weather events only when wastewater flows to the treatment facility exceed the rate of 16 litres per second;"

The holding pond was used on 16 occasions during the 2024/25 monitoring period (see APPENDIX A, Figure 5a below). This compares to the 13 occasions it was used during the 2023/24 monitoring period, the 15 occasions it was used during the 2022/23 monitoring period and the 18 occasions it was used in the 2021/22 monitoring period. The usage of the pond during the last four reporting years is seen to be similar from 21/22 until the present. The trend of pond usage is consistent over time and is not increasing / reducing.

The pond is considered in use when the level is above 250mm.

In context for the following assessments, the effect of rainfall on the operation of the system is seen in the below graph in the 2024/25 year. The holding pond is used during times when there are peaks in the Oxford scheme total daily outflow.

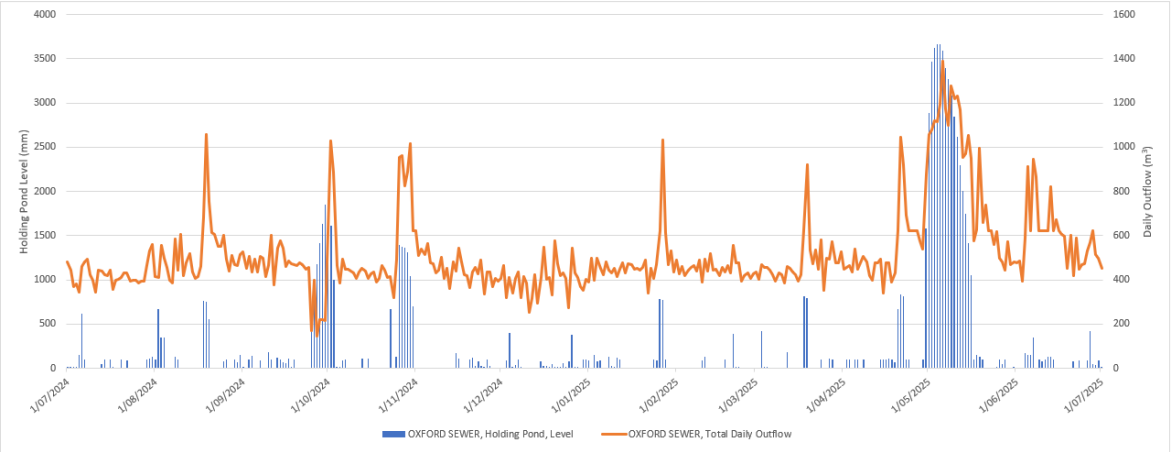


Figure 4: Oxford sewer holding pond level and Oxford sewer total daily outflow 2024/25

Condition 11 states:

> *"All stored wastewater contained within the Wet Weather Holding Pond labelled on Plan CRC144561A shall be pumped back through the secondary treatment processes at the plant following temporary storage."*

The water level in the holding pond exceeded the spillway level of 3,625mm during the 2024/25 monitoring period on 4 and 5 May 2025 (refer APPENDIX A - Figure 5(b) below). On both these days the pond level was 3,661mm (the spillway level is 3,625mm) which is an exceedance of 36mm above the pond spill level. This resulted in a total spillage volume of 228.45m3 across these days. This is a metered spill volume – refer Appendix A. Note that the spill level has been recently accurately metered so that exact volumes spilled can be measured. Therefore measured spill volumes have increased from estimated levels provided in previous Oxford wastewater compliance reports. This spill level and actual spillage volume (if any) are and will continue to be metered.

Other than on these two days all stored volumes were pumped back through the plant for treatment following temporary storage. The spill only occurred over two days and disbursed into the soil area immediately surrounding the holding pond. It is noted the holding pond is located on flat land in an area of deep groundwater >3m below ground level. Therefore the spill drained into land toward a low lying area in the centre of the site and could not have entered any nearby waterway.

On most occasions during the year the holding pond was operated well beneath the revised recalculated spill level of 3,625mm. A flow meter has been installed on the spillway so the Council can now record actual overflow volumes, validating whether a spill occurred, and if so, providing actual volumes spilled.

Condition 12(b) states:

> *"The spillway incorporated into the design for the Wet Weather Holding Pond shall:*
>
> *(b) be used only in the event of a catastrophic 1 in 100 year rainfall event."*

The graphs below indicate the use of the holding pond and temporary spillage on 4 and 5 May 2025. The rain event on 4 and 5 May 2025 was a 2.7 year AEP event for Oxford with a total of 86mm of rainfall spread over a couple of days. The spillage occurred because the inflow from the Oxford reticulation into the downstream plant remained elevated for a period of time after the rain event

finished before it gradually began to drop away. At this point the pond begins to re-integrate back into the treatment process allowing drainage of the pond water.

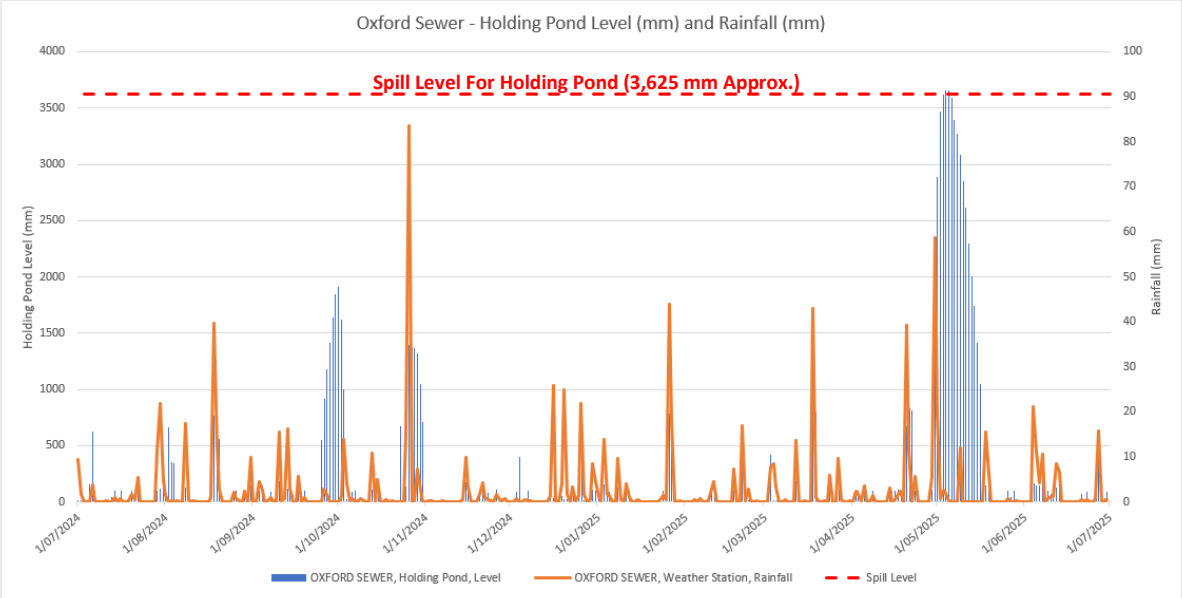


Figure 5(b): Holding pond level during 2024/25

Previous graphs provided in this report of instantaneous inflow and derived daily inflow to the holding pond are not included in the 2024/25 report as they are considered misleading. This is because the inflow meter for the holding pond captures both flow introduced by the water in the holding pond draining back down into the inlet wetwell as well as the authentic inflow to the site.

Condition 13 states:

> *"The Wet Weather Holding Pond labelled on Plan CRC144561A shall be used for storing diluted municipal wastewater and operated in accordance with the Site Management Plan (Appendix A) including, but not restricted to, the following requirements:*
>
> *(a) Wastewater held within the Wet Weather Holding Pond shall be drained back to the plant for secondary treatment as soon as practicable once influent flows recede to below 16 litres per second to the plant.*
> *(b) The consent holder shall ensure that hydraulic retention times for wastewater stored within the Wet Weather Holding Pond shall not exceed 10 days as far as practicable. (Hydraulic retention times will vary with season, groundwater levels, precipitation events, and plant operational conditions).*
> *(c) The Wet Weather Holding Pond shall be cleaned after each use to remove any accumulated solids.*

The wastewater stored in the holding pond was returned to the plant for treatment as soon as practical. The longest duration of overall ponding in the holding pond was 17 days from 30 April to 16 May 2025 during the 2024/25 monitoring period, see APPENDIX B.

The holding pond fills while it is raining and doesn't start draining immediately after. Discharge only commences when inflow returns to usual levels. The May 2025 extended storage period shown in Figure 5(b) was the result of one large rainfall event which took a while to drain from the pond.

The pond holding level is also affected by surface area rainfall falling within the immediate pond area which also has to drain.

The hydraulic retention times as shown in Table 3 below included one large retention time of 16.57 days for the May 2025 rainfall event. This means the consent 10 day hydraulic retention time limit was breached following the 4 and 5 May 2025 rainfall event (see APPENDIX C attached and Table 3, below). This was the only hydraulic retention time breach that occurred during the 2024/25 year.

During the 2024/25 year the pond appears to have been draining fully between each event. The pond is sufficient to hold most rainfall events impacting the wastewater system in Oxford, although the capacity continues to be exceeded in unusually large events. Staff have indicated that temporary aerators can be dispatched to combat odour if/when the 10 days hydraulic retention limit is exceeded (or if excessive ponding occurs). However over the last monitoring period odour was not reported as an issue and this mitigation was not required.

Staff consider that going forward, with the effects of climate change, the system will be more likely to experience similar patterns where multiple events occur in close succession or very large events overwhelm the system and the holding pond will not have capacity or will not have time to drain back to 250mm (below 250mm is considered empty) before the next event occurs. This could lead to more likely future occurrences of extensive ponding and/or breach of the 10 day hydraulic retention period. The pond can't be drained any faster without having negative impacts on the wastewater treatment plant. Faster draining would increase the risk of reducing treatment and discharging contaminants.

Table 3: Holding pond hydraulic retention times during 2024/25

Event Date	Duration of Retention (days)	Duration of Retention (minutes)
6/07/2024	0.16	225
2/08/2024	0.17	250
3/08/2024	0.12	170
4/08/2024	0.09	130
18/08/2024	1.61	2325
25/09/2024	7.72	11120
23/10/2024	0.28	405
26/10/2024	4.95	7135
31/10/2024	0.22	310
4/12/2024	0.01	20
26/12/2024	0.01	15
26/12/2024	0.00	5
26/12/2024	0.00	5
26/01/2025	1.24	1780
21/02/2025	0.00	5
21/02/2025	0.01	10
3/03/2025	0.01	20
18/03/2025	0.00	5
18/03/2025	0.00	5
18/03/2025	0.00	5
18/03/2025	1.05	1505

20/04/2025	1.91	2750
30/04/2025	16.57	23855
16/05/2025	0.05	65
7/06/2025	0.31	450
27/06/2025	0.13	185

The holding pond was cleaned down after each use in accordance with the site management plan.

3.4. Conditions 5, 6 and 14 – Holding Pond Maintenance and Monitoring

Conditions 5, 6 and 14, relate to the maintenance and monitoring of the holding pond.

Condition 5 states:

> *"At any time as requested by the Canterbury Regional Council, the consent holder shall have the average seepage rate of the Wet Weather Holding Pond tested and certified by a Chartered Professional Engineer (CPEng). The certificate shall be supplied to Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, within one month of the completion of the testing."*

Environment Canterbury did not request that the seepage from the holding pond be tested during the 2024/25 monitoring period.

Condition 6 states:

> *"The Wet Weather Holding Pond and all associated tanks, pipes and channels shall be sealed and maintained to prevent the leakage or overflowing of wastewater onto or into land."*

The pond is inspected during wet weather events when the holding pond is in use. There was an overflow observed during the 4 and 5 May 2025 rainfall event, as stated above.

Condition 14 states:

> *"The Wet Weather Holding pond shall be:*
>
> *(a) inspected at least annually and maintained in sound structural condition;*
> *(b) maintained in accordance with the specifications in the Site Management Plan (Appendix A); and*
> *(c) monitored to ensure compliance with conditions (10) and (11).*
>
> *Records of any complaints relating to odour effects shall be logged and submitted to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, on an annual basis."*

The pond is inspected during wet weather events when the holding pond is in use. Annual walkover inspections are undertaken to confirm there are no signs of deterioration of the pond banks or the liner. The holding pond is maintained and cleaned following use as required by the site management plan.

The system is monitored via SCADA to ensure compliance with conditions 10 and 11 (refer Section 3.3 above).

3.5. Summary of Compliance – CRC144561

A summary of compliance with consent CRC144561 is presented in Table 4 below.

Table 4: Summary if compliance for 2024/25 for consent CRC144561

Consent condition	Description	Compliance
Conditions 1, 2, 3, 4, 7, 8, 9, 10(b), 12(a), 15 and 16	Holding Pond Construction	Fully compliant
Conditions 10(a), 11, 12(b), and 13	Holding Pond Operation	Non – compliant. An overflow occurred from the holding pond on 4 and 5 May 2025 and the 10-day hydraulic retention time limit was exceeded following this rainfall event.
Conditions 5, 6 and 14	Holding Pond Maintenance and Monitoring	Fully compliant

4. CRC184787 – DISCHARGE TO LAND

4.1. Overview

This consent covers the discharge of contaminants into land at 470 Woodstock Road (i.e.: the irrigation disposal fields).

Consent compliance for the period 1 July 2024 through to 30 June 2025 ('the monitoring period'), has been assessed by WDC.

4.2. Conditions 1-2 and 6-9 – Treatment Process

Conditions 1, 2, 6, 7, 8 and 9, relate to the design and construction of the treatment process at the WWTP.

Condition 1 states:

> *"The discharge shall be domestic sewage effluent treated in an aerated activated sludge plant and disinfected by ultraviolet light, as described in the Royds Consulting Report entitled "Waimakariri District Council Oxford Sewage Treatment and Disposal System: Assessment of Effects on the Environment and Technical Support Document, September 1995" submitted with the application for this consent."*

The discharge consists only of domestic sewage effluent from the Oxford township and is treated in an aerated activated sludge plant and disinfected by ultraviolet light in accordance with the original Assessment of Effects on the Environment and Technical Support Document (refer TRIM 091005030296).

Environment Canterbury (ECan) raised concern during 2022 that the use of chlorine to remove algae from the irrigator spray distribution nozzles was not explicitly allowed by the consent conditions and requested WDC to cease this practice, pending a further investigation of environmental effects. However the use of chlorine to control algae has always been used at this plant and was included in the original Operations & Maintenance Manual (dated 2004).

Subsequently in a meeting on 21 June 2023 ECan agreed that WDC can recommence chlorine dosing into the treatment plant effluent holding tank moving forward. During that meeting ECan confirmed its understanding that dosing with chlorine is a common procedural requirement of operating wastewater treatment plants.

Condition 2 states:

> *"The treatment plant shall include an effluent storage facility that provides for the storage of wet weather flows as authorised by resource consent CRC144561. Effluent stored in the effluent storage facility shall receive secondary treatment via the aerated activated sludge plant and ultraviolet disinfection described in condition (1) post storage and prior to discharge."*

The holding pond provides storage of wastewater during wet weather events in accordance with CRC144561. After wet weather events, stored wastewater is pumped through to the plant for treatment in accordance with Condition 1 prior to discharge (refer Section 3.3 for further information on the holding pond operation).

Condition 6 states:

> *"The effluent holding pond shall be lined with an impermeable material such that there is no discharge of effluent into land through the base or walls of the pond."*

The holding pond has been constructed with a 1.5 mm thick High-Density Polyethylene (HDPE) membrane liner (refer Section 3.2 for further information on the holding pond construction and seepage rate testing).

Condition 7 states:

> *"Design plans for the sewage effluent treatment and disposal system shall be forwarded to the Canterbury Regional Council, prior to construction of the system. The design shall allow for samples of the effluent to be taken after treatment in the ultra-violet light disinfection unit and before discharge to the irrigation system."*

The design plans were issued to Environment Canterbury prior to 6 August 1998, as confirmed in the historical compliance report received for the original version of this consent (refer TRIM 050830031). The treatment process allows for samples to be taken post UV disinfection and prior to discharge to the irrigation disposal fields, for testing as required by Conditions 4 and 5 (refer Section 4.4).

Condition 8 states:

> *"A certificate signed by a registered civil engineer or environmental engineer to certify that the sewage treatment and disposal system is constructed in accordance with the design plans specified in condition (7) shall be provided to the Canterbury Regional Council within one month of the construction of the treatment and disposal system."*

A letter certifying that the treatment plant was constructed in accordance with the design plans, certified by Alan Hulley of MWH, was issued to Environment Canterbury on 23 May 2005 once the treatment plant had been fully commissioned. This was confirmed in the historical compliance report received for the original version of this consent (refer TRIM 050830031).

Condition 9 states:

> *"A management plan for the operation and maintenance of the sewage treatment and disposal system shall be provided to the Canterbury Regional Council prior to commencement of effluent discharge. The management plan shall specifically address the operational requirements for:*
>
> *(a) The aerated treatment plant;*
> *(b) The ultra-violet light disinfection unit;*
> *(c) Screening, storage and disposal of solids removed from the effluent;*
> *(d) Drying and disposal of sludge;*
> *(e). Irrigation of effluent onto land; and*
> *(f) An emergency power source to be used during loss of electricity."*

A copy of the Oxford Treatment Plant – Operations Manual (refer TRIM 150909129046), was issued to Environment Canterbury on 23 May 2005 as confirmed in the historical compliance report received for the original version of this consent (refer TRIM 050830031). An early version of the operations manual was developed during construction (refer TRIM 111110053282) but not issued as the modifications were undertaken to the plant during commissioning.

This manual was updated in 2009 (refer TRIM 090818024656) and also in 2014 to include the operation of the holding pond (refer TRIM 141219141903). A further update to the Oxford WWTP operations and maintenance manual was undertaken in 2023 and is attached to this report for reference (refer TRIM 230531080235 see APPENDIX H).

Conditions 3 and 10-16 – Plant Operation

Conditions 3, 10, 11, 12, 13, 14, 15 and 16, relate to the plant operation at the WWTP.

Condition 3 states:

> *"The volume of effluent discharged shall not exceed 1,382 cubic metres per day, and a maximum annual volume of 228,125 cubic metres between 1 July and the following 30 June."*

The daily volume discharged from the WWTP to the irrigation disposal field during the 2024/25 monitoring period is shown in Figure 6 below (see Appendix D for raw data).

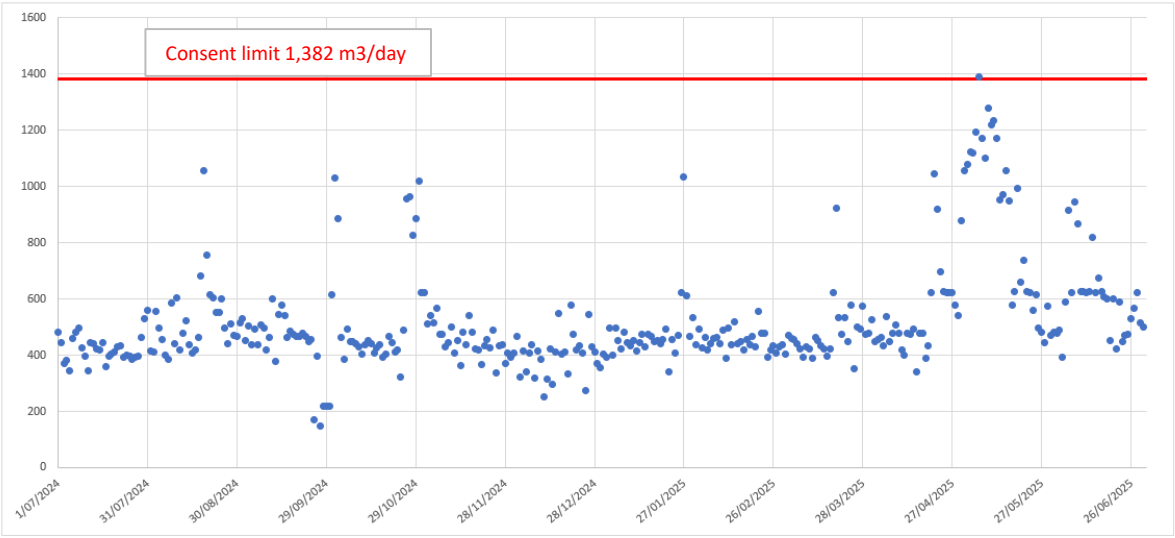


Figure 6: Daily volume (m3) discharged to the irrigation disposal field during 2024/25

The daily volume discharged exceeded the consent limit of 1,382 m3/day on 6 May 2025, with a single peak daily discharge of 1,389.7m3 on that day, which was the only exceedance during the 2024/25 year. The annual volume discharged during 2024/25 was 189,300.7 cubic metres (see Appendix D) which is less than the annual limit of 228,125 cubic metres in any year.

Condition 10 states:

> *"There shall be no discharge of effluent onto land within 20 metres of any surface water."*

There are no surface water bodies within 20 meters of the irrigation disposal fields. The Eyre River is the closest surface waterbody which is approximately 215m from the discharge area.

Condition 11 states:

> *"Effluent shall not be spray irrigated directly onto land within the drainage channel depression identified on Plan CRC184787A attached to this consent."*

The drainage channel depression shown on Plan CRC184787A has been redirected to the south of the irrigation disposal fields, such that no treated effluent is discharged onto land within the drainage channel depression.

Condition 12 states:

> *"The rate at which effluent is applied onto land shall not exceed 200 kilograms of nitrogen per hectare per year."*

The average annual nitrogen application to land concentration rate of 10.1g/m3 in 2024/25 is a slight decrease from the average concentration rate of 11.04g/m3 in 2023/24, 12.9g/m3 in 2022/23 or 13.1g/m3 recorded in the 2021/22 year. All of these are less than the consent limit application rate of 14.1g/m3 (see Appendix E Summary of all lab data results – Total Nitrogen - Oxford tab for raw data). A reducing trend in the average annual nitrogen concentration rate is apparent from 2021 until the present.

These results are tabulated for easy reference:

	2024/25	2023/24	2022/23	2021/22	Consent Limit
Total Nitrogen average annual application rate to land (g/m3)	10.1	11.04	12.9	13.1	**14.1g/m3**

This equates to an estimated annual application rate of 118.8kg-N/ha/year in the 2024/25 year, compared with 111.4kg-N/ha/year in the 2023/24 year and with 183 kg-N/ha in the 2022/23 year. This is less than the consent limit of 200 kilograms of nitrogen per hectare per year and is a generally reducing trend.

There is a decline in the average nitrogen application rate observed over the last 4 years. The annual rate in 2024/25 is slightly greater than the annual rate in 2023/24 because of the lower average annual daily discharge flow rate in 2023/24 of 445.3m3 compared with an average of 519m3 per day in 2024/25. The higher 2024/25 daily discharge flow rate is comparable to years prior to 2023/24, when the average annual daily flow rates were regularly over 500m3/day, resulting in higher total volumes of nitrogen applied in those earlier years that had a higher average discharge.

The annual application rate in kg/ha/yr is calculated by multiplying the average annual nitrogen application rate of 10.1g/m3 (see APPENDIX E – Summary of all Lab data Results) by the average annual daily flow rate (519m3/day – 518,632 l/day – see APPENDIX D), over 365 days and then divided by the total irrigable field area of 16.1 ha.

It is noted that sampling from 2023/24 onwards was undertaken weekly which is an increased frequency from the monthly sampling undertaken up until 2022/23. This means the average nitrogen application rate recorded will be more accurate than in previous years as it is based on an average derived from more regular sampling. This sampling frequency was recently increased to inform the Oxford wastewater treatment plant upgrade planning.

The nitrogen application rate is on average less than the consent limit and has been applied to the distribution fields through both irrigators throughout the year.

It is noted that over the 2024/25 year the nitrogen concentration rate sampled was higher than the consent limit of 14.1 g/m3 in only one December sample and in two April samples (see Appendix E – Total Nitrogen Oxford tab for raw data). Of 52 weekly samples only 3 samples exceeded the consent limit with a weekly average usually well below the limit.

Condition 13 states:

> *"The depth of effluent application on the primary block identified on Plan CRC184787B, attached to this consent shall not exceed 22 millimetres per day. The depth of effluent irrigation on the secondary and tertiary blocks identified on plan CRC184787B shall not exceed 10 millimetres per day."*

The attached spreadsheet APPENDIX F data set shows the daily application rates calculated from the flow and irrigator's positioning data. Note that the accuracy of the calculation is reliant on the position sensor on the irrigator working correctly. It was observed between 5 June and 22 June 2025 that the

position sensor on the West Irrigator (#2) was faulty even though it was in service (as confirmed by the pressure sensor data recorded for the period). The irrigator was recorded as not rotating (moving) in SCADA. As a result of this pressure sensor fault, the calculated effluent application depth during this period appears to be grossly overstated as seen in the graph below. The data overstates the effluent depth applied during this period because the movement of the irrigators over land is not consistent over time and SCADA does not record when this movement ceases. The data therefore over-represents the amounts discharging at times when the irrigator is moving.

Similarly, between 12 November to 28 November 2024 the daily irrigator position change shown in the spreadsheet was less than at other times of the year. However the discharge flow volumes were similar to the rest of the year. The more limited recorded movement of the irrigator during this period is distorting the calculation of application depths during this time.

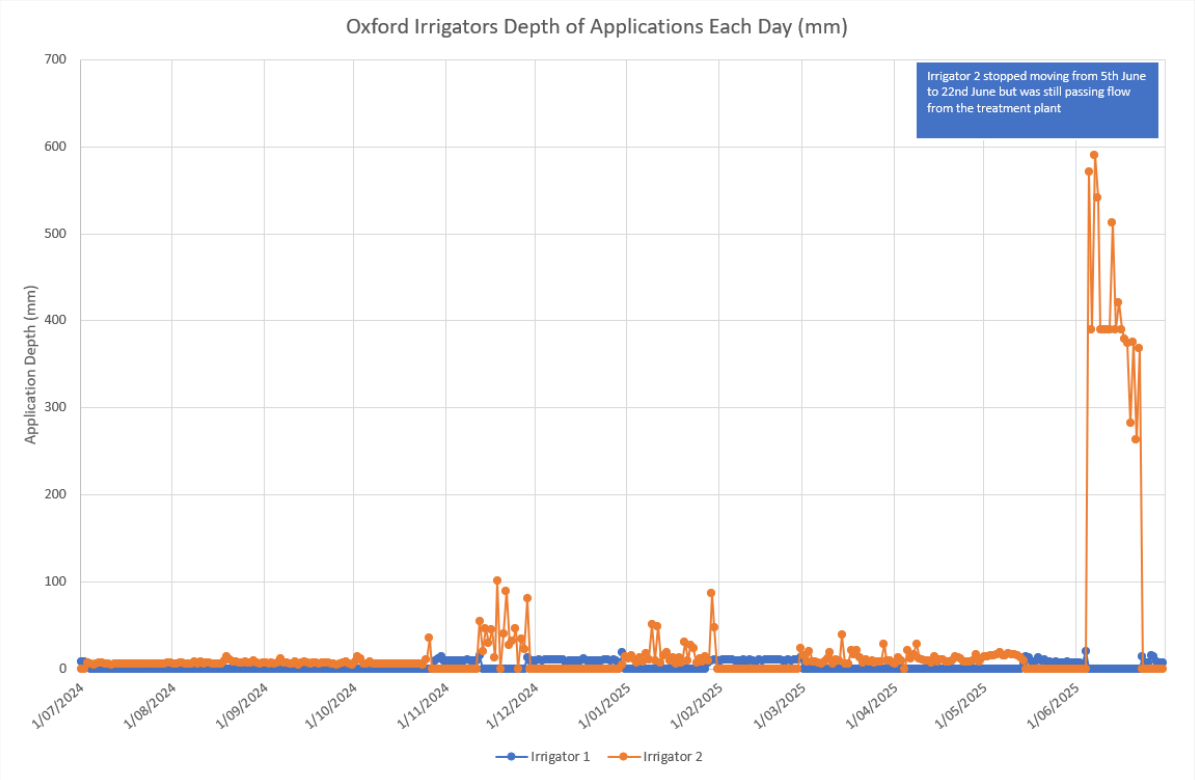
Online SCADA data became available for Irrigator 2 from 9 April 2024. Repairs to this irrigator were completed during 2021/2022 and then further changes were required to set up the on-line reporting and link this to SCADA. Therefore there is no on-line data available for Irrigator 2 prior to April 2024 which could be used to establish long term performance information about this irrigator. However the data from this irrigator is now mostly being accurately reported and the data recording issues identified above appear to be addressed. Longer term, accurate irrigator performance information should be able to be provided for future years.

Most of the “Depth of Area Irrigated” data for irrigator 2 had an application depth of less than 22m per day between 1 July 2024 and 5 June 2025 (see Appendix F – Irrigator Depths tab) meaning the consent limit of 22mm application depth was met during most months of the year. However there were several exceedances particularly during November 2024 as described above. For Irrigator 1 there were no exceedances of the 22mm per day application depth at any point during the year. The maximum application depth from this irrigator was 20.6mm on 4 June 2025, within the 22mm limit.

There was a project to install flowmeters on the effluent discharge lines to each irrigator in 24/25 which enabled the effluent flows to each irrigator to be measured which is now reported in Appendix F. There was also a project to replace Irrigator 1 in 24/25 which included an upgrade to the SCADA system at the irrigator site. These changes improved the ability to accurately measure the depth of effluent applied.

A bucket test of the eastern irrigator discharge rate was most recently conducted in November 2021. This found that the approximate application rate is 17.93mm in any 24 hour period which is within the consent limit. This bucket test estimate from 2021 is similar to most of the subsequent, actual on-line records of application depth from each irrigator during 2024/25, excluding the recording issues in November 2024 and June 2025.

The irrigation depth rates from both irrigators are shown in Figure 7 below. The graph shows the irrigation depths discharging from Irrigator 1 are compliant throughout the full year and from Irrigator 2 are mostly compliant:



Condition 14 states:

> *"There shall be no ponding of effluent."*

Ponding has not been observed in the effluent disposal fields by Water Unit site operators during the 2024 /25 year. This can be seen in field records from 3 November 2023 until 25 July 2025. These records are extracted from Infrastructure Data, which records and reports weekly irrigator observations by operators (see APPENDIX I). During this reporting year, it appears that the one off "unsatisfactory" report on 12 July 2024 was promptly resolved as indicated by satisfactory reports received during the following two weeks.

Condition 15 states:

> *"There shall be no grazing of land by stock within 48 hours of irrigation of that land with effluent."*

The site was not used for grazing at any time during the 2024/25 monitoring period.

Condition 16 states:

> *"The hours and rate (in cubic metres per hour) of effluent discharged and the area of land to which effluent is applied shall be measured to within an accuracy of 10 percent and recorded daily in a log kept for that purpose. These records shall be provided to the Canterbury Regional Council, on request."*

The daily volume of effluent discharged is shown in Figure 8 below and the area of land to which the effluent was applied is tabulated in Appendix F. As SCADA information is now available for irrigator position and movement for Irrigator 2 the Council is fully compliant with this condition.

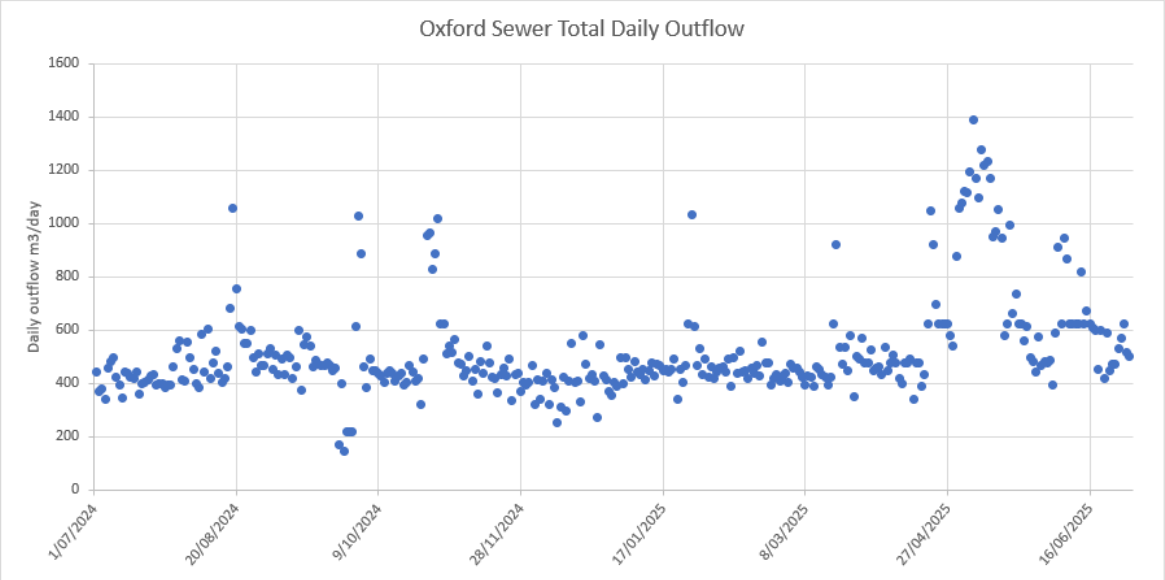


Figure 8: Daily volume of effluent discharged during 2024/25

4.3. Conditions 4 and 5 – Treatment Monitoring

Conditions 4 and 5, relate to the treatment monitoring at the WWTP.

Condition 4 states:

> *"The faecal coliform bacteria concentration in a representative sample of the effluent taken following ultra-violet light disinfection and before discharge to the irrigation system shall not exceed 500 per 100 millilitre sample."*

Condition 5 states:

> *"A representative sample of the discharge shall be taken at the sampling location specified in condition (4) within one month of the commencement of discharge and at least every six months thereafter. Each sample shall be analysed for faecal coliform bacteria (number per 100 millilitres) and total nitrogen concentration (grams per cubic metre). The laboratory carrying out the analyses shall be accredited to ISO Guide 25, for those analyses, either by TELARC or by an organisation with a mutual recognition agreement with TELARC established in accordance with ISO Guide 58. The results shall be provided to the Canterbury Regional Council within five working days of receipt of the results by the consent holder."*

Representative samples were taken from the plant, after UV disinfection and prior to discharge to the irrigation disposal fields on a weekly basis during 2024/25. The samples are tested by Hill Laboratories who are accredited to ISO Guide 25. Results from the daily volume discharge from the WWTP to the irrigation disposal field during the 2024/25 monitoring period are shown in Figure 9 below (see Appendix E – FaecalColi Post UV Oxford tab for raw data).

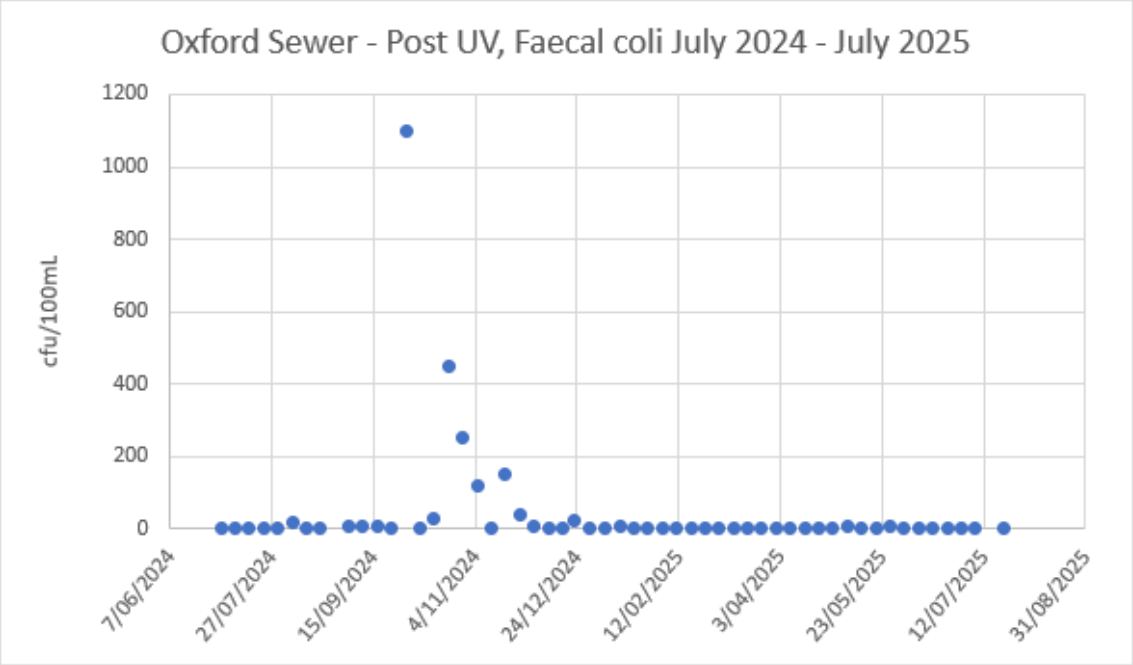


Figure 9: Weekly faecal coliform sample results during 2024/25

The graph shows all but one of the results during the year were below the consent limit of 500cfu/100ml. In addition, from the majority of weekly samples no coliforms were detected at all (see Appendix E – FaecalColi Post UV tab).

The results show that the discharge was compliant for the July 2024 to June 2025 year (only two samples were required to be taken for the 2024/25 year and all but one of the 52 weekly samples analysed were compliant). It is noted sampling is undertaken weekly for operational information purposes, although sampling is only required by the consent conditions once every six months.

Samples have been provided here on an annual basis, however Environment Canterbury have requested that these are sent through within 5 working days as per the consent condition. Systems have been put in place to ensure that these results are sent through to Environment Canterbury within 5 working days.

4.4. Summary of Compliance – CRC184787

A summary of compliance with condition CRC184787 is presented in Table 5 below.

Table 5: Summary if compliance for 2023/24 for consent CRC184787.

Consent condition	Description	Compliance
Conditions 1, 2, 6, 7, 8 and 9	Treatment Process	Fully compliant
Conditions 3, 10, 11, 12, 13, 14, 15 and 16	Plant Operation	Mostly compliant. The daily volume discharged exceeded the consent limit of 1,382 m3/day on 6 May 2025. An issue with SCADA data occurred during November

		2024 and June 2025 recording effluent discharge application depth to land, which has been subsequently corrected. Recorded effluent application depths outside of these dates were compliant.
Condition 4 and 5	Treatment Monitoring	Compliant. Total nitrogen application rates and faecal coliform sampling and results meet the consent requirements.

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR INFORMATION

FILE NO and TRIM NO:	WAT-03 / 251106211870
REPORT TO:	UTILITIES & ROADING COMMITTEE
DATE OF MEETING:	25 November 2025
AUTHOR(S):	Caroline Fahey, Water & Wastewater Asset Manager
SUBJECT:	Drinking Water Quality and Compliance Annual Report 2024-25
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report is to update the Utilities and Roading Committee on the results of the annual drinking water quality and compliance review for all Council-owned drinking water supplies for the 2024-25 compliance year. The assessment is based on requirements of the Water Services Act (2021) and Drinking Water Assurance Rules (DWQAR) and is aligned with the updated Department of Internal Affairs (DIA) Non-financial Performance Measures Rules 2024.

1.2. The results achieved for the 2024–25 compliance period were very good, particularly given that the DWQAR requirements came into immediate effect in November 2022. Council had a very short timeframe to respond, yet successfully implemented an accelerated UV programme across the district within the legislative deadline.

1.3. For the 2024-25 compliance period, all drinking water supplies that had chlorine and UV treatment installed for the entire period achieved either an “All met (100%)” or “Almost met (95-99.99%)” compliance grading. Supplies that achieved “Partially met (0.01% to 94.99%)” or “None met (0%)” did not achieve full compliance due to the following reasons:

- Lack of UV treatment barrier to meet protozoal compliance. This affected the Rangiora, Kaiapoi, Oxford Urban/Rural 2 and West Eyreton supplies. While UV treatment is installed and fully operational at these sites now, it was not in place for the entire compliance period.

- Lack of adequately sized storage to provide the required chlorine contact time to meet bacterial compliance. This affected the Rangiora, Kaiapoi, Oxford Urban/Rural 2, West Eyreton and Ohoka supplies. In future, this requirement can be met through the UV treatment equipment that has recently been installed, as UV treatment can provide bacterial compliance for the treatment plant, rather than relying upon sufficient chlorine contact time.

- Loss of data or erratic data due to SCADA related issues which resulted in inability to demonstrate compliance, which is a technical non-compliance and not a true reflection of the water quality. This issue is common to all supplies due to the stringent nature of the rules governing data collection and monitoring frequency.

1.4. As of 1 November 2025, all Council’s drinking water supplies have UV treatment installed and are fully operational. This will resolve the key issues resulting in non-compliances reported for supplies identified above.

1.5. Staff have previously identified that the integrity of the SCADA telemetry system needs to be improved to minimise occurrence of loss of data due to SCADA failure. This is an ongoing issue that will be difficult to fix due to the complex nature of the issue. Staff are continuously looking at ways to improve the existing system but it will be difficult to fix the issues in the short term. The Water Services Authority – Taumata Arowai has signalled that it may relax some of the compliance rules relating to needing to demonstrate continuous compliance.

1.6. Overall, the results for the 2024-25 assessment period (refer Table 1 below) are a significant improvement over previous years. This is mainly due to the installation of UV treatment to a number of supplies, which enables bacterial and protozoal compliance to be met, as well as improvements implemented in the areas of sampling and monitoring.

Table 1 – Compliance results for the 2024/25 period

Water Supply	Size of supply (based on DWQAR definition)	Performance measure rules that compliance is assessed against	Treatment Plant		Distribution Zone	Key Reasons for Not Meeting Full Compliance
			Bacterial	Protozoa	Microbiological	
Cust	Small (26-100 people)	(h) 4.10.1 T3 Bacterial Rules (UV) (i) 4.10.2 T3 Protozoal Rules (UV) (g) 4.8 D2.1 Distribution System Rule	Almost met 99.5%	Almost met 99.5%	All met 100%	Data outages
Garrymere	Small (26-100 people)	(c) 4.7.1 T2 Treatment Monitoring Rules (d) 4.7.2 T2 Filtration Rules (e) 4.7.3 T2 UV Rules (f) 4.7.4 T2 Chlorine Rules (g) 4.8 D2.1 Distribution System Rule	All met 100%	All met 100%	All met 100%	-
Kaiapoi	Large (>500 people)	(h) 4.10.1 T3 Bacterial Rules (UV) (Chlorine from 1/6/2024 – 31/1/2025) (UV from 1/2/2025 – 30/6/2025) (i) 4.10.2 T3 Protozoal Rules (UV from 1/2/2025 – 30/6/2025) (j) 4.11.5 D3.29 Microbiological Monitoring Rule	Darnley–Partially met 93.8%	Darnley–Partially met 41.9% (100% since commissioning)	All met 100%	Data outages and UV only operational from Feb 2025
			Peraki–Partially met 92.6%	Peraki–Partially met 59.7% (99.1% since commissioning)		Data outages and UV only operational from Jan 2025
Mandeville	Large (>500 people)	(h) 4.10.1 T3 Bacterial Rules (UV) (i) 4.10.2 T3 Protozoal Rules (UV) (j) 4.11.5 D3.29 Microbiological Monitoring Rule	Almost met 99.7%	Almost met 99.7%	All met 100%	Data outages
Ohoka	Small (26-100 people)	(h) 4.10.1 T3 Bacterial Rules (Chlorine) (i) 4.10.2 T3 Protozoal Rules (Class 1 bore) (g) 4.8 D2.1 Distribution System Rule	Almost met 98.7%	All met 100%	All met 100%	Insufficiently sized reservoir to meet Chlorine contact time for part of the period and data outages
Oxford Rural 1	Large (>500 people)	(h) 4.10.1 T3 Bacterial Rules (UV) (i) 4.10.2 T3 Protozoal Rules (UV) (j) 4.11.5 D3.29 Microbiological Monitoring Rule	All met 100%	All met 100%	All met 100%	-
Oxford Urban and Rural 2	Large (>500 people)	(h) 4.10.1 T3 Bacterial Rules (Chlorine from 1/7/2024 – 30/10/2024) (UV from 1/11/2024 – 30/6/2025) (i) 4.10.2 T3 Protozoal Rules (UV from 1/11/2024 – 30/6/2025) (j) 4.11.5 D3.29 Microbiological Monitoring Rule	Partially met 93.9%	Partially met 66.3% (100% since commissioning)	Rural–All met 100%	No on-site reservoir to meet Chlorine contact time for part of the period. UV only operational from November 2024
					Urban–All met 100%	
Woodend – Pegasus	Large (>500 people)	(h) 4.10.1 T3 Bacterial Rules (UV) (i) 4.10.2 T3 Protozoal Rules (UV) (j) 4.11.5 D3.29 Microbiological Monitoring Rule	All met 100%	All met 100%	Woodend–All met 100%	-
					Pegasus–All met 100%	
Rangiora	Large (>500 people)	(h) 4.10.1 T3 Bacterial Rules (Chlorine) (i) 4.10.2 T3 Protozoal Rules (UV not yet installed) (j) 4.11.5 D3.29 Microbiological Monitoring Rule	Almost met 98.8%	None met 0%	All met 100%	Insufficiently sized reservoir to meet Chlorine contact time for part of the period. Data outages and UV not yet operational during this period.
Waikuku Beach	Large (>500 people)	(h) 4.10.1 T3 Bacterial Rules (UV) (i) 4.10.2 T3 Protozoal Rules (UV) (j) 4.11.5 D3.29 Microbiological Monitoring Rule	Waikuku Beach–All Met 100%	Waikuku Beach–All Met 100%	All met 100%	-
			Campground–All met 100%	Campground–All met 100%		
West Eyreton	Large (>500 people)	(h) 4.10.1 T3 Bacterial Rules (Chlorine) (i) 4.10.2 T3 Protozoal Rules (UV not yet installed) (j) 4.11.5 D3.29 Microbiological Monitoring Rule	Partially met 90.2%	None met 0%	Poyntz–All met 100%	Insufficiently sized reservoir to meet Chlorine contact time for the entire period. Data outages and UV not yet operational during this period.
					Summerhill–All met 100%	
					West Eyreton–All met 100%	

All Met – 100% *Almost Met – 95–99.9%* *Partially Met – 1–94.9%* *None Met – 0%*

Attachments:

i. External Audit Report of Drinking Water Standards Compliance Letter (Trim 250825155996)
ii. External Audit Report of Drinking Water Standards Compliance (Trim 250825155997)

2. RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 251106211870.

(b) **Notes** that the assessment of Council's drinking water compliance for the 2024-25 compliance year is based on requirements of the Water Services Act 2021 and Drinking Water Assurance Rules (DWQAR) and is aligned with the updated DIA Non-financial Performance Measures Rules 2024 (the Rules).

(c) **Notes** that results achieved for the 2024–25 compliance period were very good, particularly given that the DWQAR requirements came into immediate effect in November 2022. Council had a very short timeframe to respond, yet successfully implemented an accelerated UV programme across the district within the legislative deadline.

(d) **Notes** that for the 2024-25 compliance year, all drinking water supplies that had chlorine and UV treatment installed for the entire period achieved either "All Met (100%)" or "Almost Met (95-99.99%)" compliance grading. The remaining supplies did not achieve full compliance mainly due to UV treatment not yet being installed. There were also some technical non-compliances relating to data capture issues.

(e) **Notes** that as of 1 November 2025, UV treatment has been installed on all of Council's drinking water supplies and are fully operational which will resolve the key issues resulting in the non-compliances reported for this period.

(f) **Notes** that overall the results for the 2024-25 assessment period are a significant improvement over previous years. This is mainly due to the installation of UV treatment to a number of supplies, which enables bacterial and protozoal compliance to be met, as well as improvements implemented in the areas of sampling and monitoring.

(g) **Circulates** this report to the Community Boards for their information.

(h) **Circulates** a copy of this report to Te Ngāi Tūāhuriri Rūnanga for their information.

BACKGROUND

2.1. The new Drinking Water Quality Assurance Rules (DWQAR) came into effect on 14 November 2022, which set out what drinking water suppliers need to do to comply with key parts of the new Drinking Water Standards and other requirements under the Water Services Act 2021. This replaces the previous Drinking Water Standards New Zealand (DWSNZ) 2005 (Revised 2018).

2.2. An annual review has been undertaken since the 2018-19 compliance year of drinking water quality and compliance results. For the 2024-25 compliance year, an annual review of Waimakariri District Council's water supply performance was undertaken by an independent drinking water compliance specialist, Matt Molloy Consulting Ltd (refer Attachments i and ii).

2.3. The Department of Internal Affairs updated the Non-financial Performance Measures Rules 2024 (the Rules) that came into effect on 22 August 2024, with expectations for councils to report on the new Rules for the 2024-25 financial year.

2.4. "Performance Measure One: Safety of Drinking Water" of the Rules measures the extent to which the local authority's drinking water supply complies with the following parts of the DWQAR. The following table shows which rules apply to which schemes

Table 2 – DWQAR applicable to WDC Schemes

DWQAR Rule	WDC Water Supply Scheme
(a) 4.4 T1 Treatment Rules	Not applicable
(b) 4.5 D1.1 Distribution System Rule	Not applicable
(c) 4.7.1 T2 Treatment Monitoring Rules	Garrymere
(d) 4.7.2 T2 Filtration Rules	Garrymere
(e) 4.7.3 T2 UV Rules	Garrymere
(f) 4.7.4 T2 Chlorine Rules	Garrymere
(g) 4.8 D2.1 Distribution System Rule	Garrymere, Cust, Ohoka
(h) 4.10.1 T3 Bacterial Rules	Cust, Kaiapoi, Mandeville, Ohoka, Oxford Rural No.1, Oxford Urban & Rural No.2, Woodend – Pegasus,

	Rangiora, Waikuku Beach, West Eyreton
(i) 4.10.2 T3 Protozoal Rules	Cust, Kaiapoi, Mandeville, Ohoka, Oxford Rural No.1, Oxford Urban & Rural No.2, Woodend – Pegasus, Rangiora, Waikuku Beach, West Eyreton
(j) 4.11.5 D3.29 Microbiological Monitoring Rule.	Kaiapoi, Mandeville, Oxford Rural No.1, Oxford Urban & Rural No.2, Woodend – Pegasus, Rangiora, Waikuku Beach, West Eyreton

2.5. This updated measure still covers the bacterial and protozoal compliance of water supplies but is now directly referenced to the relevant rules in the Drinking Water Quality Assurance Rules 2022. It also aligns with the Water Services (Drinking Water Standards for New Zealand) Regulations 2022 and incorporates the DWQAR aggregate compliance rate methodology to ensure consistent national reporting.

2.6. The DWQAR aggregate compliance rate methodology was used in the assessment to calculate whether the performance measures for bacteriological compliance and protozoal compliance were “All met (100%)”, “Almost met (95-99.99%)”, “Partially met (0.01-94.99%)”, or “None met (0%)”.

3. ISSUES AND OPTIONS

3.1. Table 3 below summarises the compliance status for the 12 water supplies for the period 1 July 2024 – 30 June 2025, assessed against the DWQAR.

Table 3: Summary of Results for 1 July 2024 – 30 June 2025 Compliance Period

Water Supply	Treatment Plant		Distribution Zone
	Bacterial	Protozoal	Microbiological
Cust	Almost met 99.5%	Almost met 99.5%	All met 100%
Garrymere	All met 100%	All met 100%	All met 100%
Kaiapoi	Darnley- Partially met 93.8% (100% since commissioning)	Darnley – Partially met 41.9% (100% since commissioning)	All met 100%
	Peraki- Partially met 92.6% (99.1% since commissioning	Peraki- Partially met 59.7% (99.1% since commissioning)	
Mandeville	Almost met 99.7%	Almost met 99.7%	All met 100%
Ohoka	Almost met 98.7%	All met 100%	All met 100%
Oxford Rural 1	All met 100%	All met 100%	All met 100%
Oxford Urban & Rural No.2	Partially met 93.9%	Partially met 66.3% (100% since commissioning)	Rural All met 100%
			Urban All met 100%
Woodend - Pegasus	All met 100%	All met 100%	Woodend All met 100%
			Pegasus All met 100%
Rangiora	Almost met 98.8%	None met 0%	All met 100%
Waikuku Beach	Kings Ave All met 100%	Kings Ave All met 100%	All met 100%
	Campground All met 100%	Campground All met 100%	
West Eyreton	Partially met 90.2%	None met 0%	Poyntzs All met 100% Summerhill All met 100% West Eyreton All met 100%

Water Supply	Treatment Plant		Distribution Zone
	Bacterial	Protozoal	Microbiological

Notes:

- The % relates to the overall compliance against all appropriate rules for that category (appropriate meaning those rules that DIA have specifically identified in the guidance material)
- 100% = All met, 95-99.9% = Almost met, 0.01-94.9% = Partially met, 0% = None met.
- To ensure consistency across the reporting period, for level 2 supplies a monthly compliance period has been used for 2024 and 2025.

3.2. Table 4 below reflects the DIA non-financial performance indicators that require reporting for Performance Measure One and the results of the 2024-25 assessment year.

Table 4: Summary of Results for DIA Performance Measure One (Safety of Drinking Water) for 2024-25

DIA Performance Measure One (Safety of Drinking Water)	Results (2024-2025)
(a) 4.4 T1 Treatment Rules	Not applicable to WDC
(b) 4.5 D1.1 Distribution System Rule	Not applicable
(c) 4.7.1 T2 Treatment Monitoring Rules	Garrymere, All met 100%
(d) 4.7.2 T2 Filtration Rules	Garrymere, All met 100%
(e) 4.7.3 T2 UV Rules	Garrymere, All met 100%
(f) 4.7.4 T2 Chlorine Rules	Garrymere, All met 100%
(g) 4.8 D2.1 Distribution System Rule	Garrymere, All met 100% Cust, All met 100% Ohoka, All met 100%
(h) 4.10.1 T3 Bacterial Rules	Cust, Almost met 99.5% Kaiapoi, Partially met 93.2% Mandeville, Almost met 99.7% Ohoka, Almost met 98.7% Oxford Rural No.1, All met 100% Oxford Urban & Rural No.2, Partially met 93.9% Woodend – Pegasus, All met 100% Rangiora, Partially met 98.8% Waikuku Beach, All met 100% West Eyreton, Partially met 90.2%
(i) 4.10.2 T3 Protozoal Rules	Cust, Almost met 99.5% Kaiapoi, Partially met 50.8% (99.5% since UV was commissioned) Mandeville, Almost met 99.7% Ohoka, All met 100% Oxford Rural No.1, All met 100% Oxford Urban & Rural No.2, Partially met 66.3% (100% since UV commissioned) Woodend–Pegasus, All met 100% Rangiora, None met 0% Waikuku Beach, All met 100% West Eyreton, None met 0%

(j) 4.11.5 D3.29 Microbiological Monitoring Rule.	Kaiapoi, All met 100% Mandeville, All met 100% Oxford Rural No.1, All met 100% Oxford Urban & Rural No.2, All met 100% Woodend–Pegasus, All met 100% Rangiora, All met 100% Waikuku Beach, All met 100% West Eyreton, All met 100%

3.3. Table 5 below summarises the main reasons for the non-compliances for each water supply in the 1 July 2024 – 30 June 2025 reporting period. Also within the table are the improvement actions that will be required to ensure compliance is achieved on an ongoing basis in the future.

Table 5 – DWQAR applicable to WDC Schemes

Water Supply	Main reasons for non-compliances	Improvements actions required
Cust	Non-compliances were related to an instance of communication failure and inability to recover all data (outage of 320 mins over 2 days). During this event the UV system was still operating, but compliance data was not available for assessment. These are technical issues and did not present a risk to the safety of the water.	Loss of data due to SCADA failure is an ongoing issue that is difficult to fix due to the nature of the issue. Staff are continuously looking at ways to improve the existing system but it will be difficult to fix the issues in the short term.
Kaiapoi	Darnley Square and Peraki Street treatment plants have insufficiently sized reservoirs so are unable to demonstrate bacterial compliance with chlorine contact time requirements. There is also no protozoal barrier at these plants due to their previous designation as secure under the previous DWSNZ.	Darnley Square had UV disinfection installed on 1 February 2025 and Peraki Street on 1 January 2025. Both bacterial and protozoal compliance was met from these dates.
Mandeville	Missing minutes were recorded at the Two Chain Road treatment plant during 26th September 2024 due to a communication failure and inability to recover all data. During this event the UV system was still operating, but compliance data was not available for 32 minutes. There was also an issue with UVT monitoring on 11th February 2025. These are technical issues and did not present a risk to the safety of the water.	Loss of data due to SCADA failure is an ongoing issue that is difficult to fix due to the nature of the issue. Staff are continuously looking at ways to improve the existing system but it will be difficult to fix the issues in the short term.
Ohoka	The storage is not adequately sized to achieve chlorine contact time during peak demands. There was a data loss incident that effected 4 days of data from 17-20 April 2025.	UV treatment was installed in October 2025 which will enable the supply to achieve bacterial and protozoal compliance in the future. Note that there will be at least 4 months of the 25/26 compliance period that will not meet the requirements. Loss of data due to SCADA failure is an ongoing issue that is difficult to fix due to the nature of the issue. Staff are continuously looking at ways to improve

		the existing system but it will be difficult to fix the issues in the short term.
Oxford Urban & Rural No.2	As there is no onsite reservoir, chlorine contact time was not demonstrated and the treatment plant did not comply. There is also no protozoal barrier at this plant due to its previous designation as secure.	Domain Road had UV disinfection installed in November 2024 and met all the bacterial and protozoal compliance since then.
Rangiora	Issues with chlorine contact time not being met during high demand, plus data loss incidents caused by SCADA failure in January, February and April 2025. There is also no protozoal barrier at this plant due to its previous designation as secure.	UV treatment was installed in August 2025 which will enable the supply to achieve both bacterial and protozoal treatment. Note that there will be at least 2 months of the 25/26 compliance period that will not meet the requirements. Loss of data due to SCADA failure is an ongoing issue that is difficult to fix due to the nature of the issue. Staff are continuously looking at ways to improve the existing system but it will be difficult to fix the issues in the short term.
West Eyreton	Inadequate chlorine contact time due to size of reservoirs to demonstrate compliance. There is also no protozoal barrier at this plant due to its previous designation as secure.	UV treatment was installed in June 2025 which will enable the supply to achieve both bacterial and protozoal treatment.

3.4. The key improvement actions are:

- Implement UV treatment at various sites to achieve bacterial and protozoal compliance. As of 1 November 2025, all Council's drinking water supplies have UV treatment installed and are fully operational. This will resolve the key issues resulting in non-compliances reported for supplies identified above. It is noted that the Ohoka and Rangiora schemes will only be able to partially meet the bacterial and protozoa requirements in the 25/26 period, as the UV treatment was not installed and operational until after 1 July 2025.Improve the integrity of the SCADA system to minimise occurrence of loss of data due to SCADA failure. This is an ongoing issue that will be difficult to fix due to the complex nature of the issue. Staff are continuously looking at ways to improve the existing system but it will be difficult to fix the issues in the short term.

3.5. Note that even with steps taken to achieve compliance, there is still a risk of technical non-compliance due to data capture issues.

Implications for Community Wellbeing

There are implications on community wellbeing by the issues and options that are the subject matter of this report. The Waimakariri District has very high quality source water and water infrastructure. The community is provided with high quality water supply that is important in protecting public health. It is important that all steps are taken to ensure compliance with the Water Services Act and DWQAR.

3.6. The Management Team has reviewed this report and support the recommendations.

4. COMMUNITY VIEWS

4.1. Mana whenua

Te Ngāi Tūāhuriri hapū are likely to be affected by, or have an interest in the subject matter of this report. The recommendations of this report include circulation of this report and the attachments to Te Ngāi Tūāhuriri Rūnanga for their information.

4.2. **Groups and Organisations**

No groups or organisations have been consulted regarding the annual compliance report or quality data analysis. Consultation is carried out with individual community boards and advisory groups for specific capital projects as required.

4.3. **Wider Community**

As above, specific community consultation has not been carried out regarding the compliance report as a whole, but targeted consultation exercises are carried out on specific schemes for specific projects.

5. OTHER IMPLICATIONS AND RISK MANAGEMENT

5.1. **Financial Implications**

There are no financial implications of the decisions sought by this report. However it should be noted that on-going non-compliances can result in increased monitoring costs and action being taken against the Council.

Such instances can result in loss of confidence from the public as well as adverse effect to Council's reputation.

This report is not seeking any changes to budgets as these are covered in separate reports generally via the Annual Plan / Long Term Plan process.

5.2. **Sustainability and Climate Change Impacts**

This report does not have direct climate change or sustainability impacts, as it is simply reporting on quality and compliance data. However, it can be noted that the impacts of climate change must be taken into account in considering risks to water quality and compliance levels. Severe rain events have the potential to impact upon raw water quality, particularly for shallow sources. This highlights the importance both of Council's strategy of seeking to establish high quality groundwater where possible, but also of having multiple barriers to contamination in place to protect against any deterioration in source water quality as a result of weather events for example.

6.3 **Risk Management**

There are inherent risks with public drinking water supplies. The Council takes a proactive risk management approach, with risks assessed via the Drinking Water Safety Plan process, and steps identified to address any unacceptable risks that are identified.

Staff consider that Waimakariri District Council is providing safe drinking water to the public. The risk to the water has not changed, however the rules for compliance have become more stringent.

6.3 **Health and Safety**

As above, compliant drinking-water is essential in ensuring the health and safety of the district's communities from water borne disease.

6. CONTEXT

6.1. **Consistency with Policy**

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

6.2. **Authorising Legislation**

The Local Government Act and Water Services Act are relevant in this matter.

6.3. **Consistency with Community Outcomes**

The provision of safe drinking water relates to the following community outcomes:

- Infrastructure and services are sustainable, resilient, and affordable.
- Our community has equitable access to the essential infrastructure and services required to support community wellbeing.

6.4. **Authorising Delegations**

No delegation is required to receive this report.

Matt Molloy Consulting Ltd
Environmental and Public Health Consultant

25 August 2025

Waimakariri District Council
P O Box 1005
RANGIORA 7440

Attention:
Caroline Fahey

Review of Waimakariri District Councils water supply performance against the Water Services (Drinking Water Standards for New Zealand) Regulations 2022 and the Drinking Water Quality Assurance Rules 2022 [DWQAR], for the period 1 July 2024 – 30 June 2025

I refer to the independent assessment of performance of water supplies against the Water Services (Drinking Water Standards for New Zealand) Regulations 2022 and the Drinking Water Quality Assurance Rules 2022 [DWQAR], for the period 1 July 2024 – 30 June 2025. The assessments were undertaken by Matt Molloy, an independent drinking water compliance specialist.

The assessment parameters have been defined by the Department of Internal Affairs and Audit New Zealand (DIA/AuditNZ). In June 2025 DIA/AuditNZ provided clarification on the expected assessment and reporting methodology that is to be used for the 2024/25 audits. This is based on the Water Services Authority process using an aggregate compliance rate methodology. Additional guidance was provided on what was expected to be assessed to meet drinking water performance measures.

Waimakariri District Council has the following drinking water performance measure.

- Performance measure 1 -safety of drinking water and the extent to which the Council drinking water supply complies with the relevant parts of the DWQAR

The assessment covered all the water treatment plants and distribution zones. A brief report describing the process and results for the DWQAR assessment is attached to this letter.

<u>Drinking Water Quality Assurance Rules 2022</u>
The outcome for each treatment plant and distribution zone is summarised in the table on the next page. This is for the period 1 July 2024 – 30 June 2025. Bacterial and protozoa compliance at the treatment plant is assessed each day, the distribution zone is assessed each month.

Summary of DWQAR compliance

Water supply	Treatment plant		Distribution zone
	Bacterial	Protozoa	Microbiological
Cust	Almost met 99.5%	Almost met 99.5%	All met 100%
Garrymere	All met 100%	All met 100%	All met 100%
Kaiapoi	Darnley- Partially met 93.8%	Darnley – Partially met 41.9% (100% since commissioning)	All met 100%
	Peraki- Partially met 92.6%	Peraki- Partially met 59.7% (99.1% since commissioning)	
Mandeville	Almost met 99.7%	Almost met 99.7%	All met 100%
Ohoka	Almost met 98.7%	All met 100%	All met 100%
Oxford Rural No.1	All met 100%	All met 100%	All met 100%
Oxford Urban & Rural No.2	Partially met 93.9%	Partially met 66.3% (100% since commissioning)	Rural All met 100%
			Urban All met 100%
Woodend & Pegasus	All met 100%	All met 100%	Woodend All met 100%
			Pegasus All met 100%
Rangiora	Almost met 98.8%	None met 0%	All met 100%
Waikuku Beach	Waikuku Beach- All met 100%	Waikuku Beach- All met 100%	All met 100%
	Campground- All met 100%	Campground- All met 100%	
West Eyreton	Partially met 90.2%	None met 0%	Poyntz All met 100%
			Summerhill All met 100%
			West Eyreton All met 100%

NOTES:

- The % relates to the overall compliance against all appropriate rules for that category (appropriate meaning those rules that DIA/AuditNZ have specifically identified in the guidance material)
- 100% = All met, 95-99.9% = Almost met, 0.01-94.9% = Partially met, 0% = None met.
- To ensure consistency across the reporting period, for level 2 supplies a monthly compliance period has been used for 2024 and 2025.

The table below reflects the DIA/AuditNZ non-financial performance indicators that require reporting for performance measure 1 and the 2024-25 results.

Summary of performance measure 1 -safety of drinking water

Performance measure one (safety of drinking water)	Results (2024-2025)
(a) 4.4 T1 Treatment Rules;	Not applicable to WDC.
(b) 4.5 D1.1 Distribution System Rule;	Not applicable to WDC.
(c) 4.7.1 T2 Treatment Monitoring Rules;	Garrymere, All met 100%
(d) 4.7.2 T2 Filtration Rules;	Garrymere, All met 100%
(e) 4.7.3 T2 UV Rules;	Garrymere, All met 100%
(f) 4.7.4 T2 Chlorine Rules;	Garrymere, All met 100%
(g) 4.8 D2.1 Distribution System Rule;	-Garrymere, All met 100% -Cust, All met 100%

	-Ohoka, All met 100%
(h) 4.10.1 T3 Bacterial Rules;	-Cust, Almost met 99.5% -Kaiapoi, Partially met 93.2% -Mandeville, Almost met 99.7% -Ohoka, Almost met 98.7% -Oxford Rural No.1, All met 100% -Oxford Urban & Rural No.2, Partially met 93.9% -Woodend – Pegasus, All met 100% -Rangiora, Partially met 98.8% -Waikuku Beach, All met 100% -West Eyreton, Partially met 90.2%
(i) 4.10.2 T3 Protozoal Rules;	-Cust, Almost met 99.5% -Kaiapoi, Partially met 50.8% (99.5% since UV was commissioned) -Mandeville, Almost met 99.7% -Ohoka, All met 100% -Oxford Rural No.1, All met 100% -Oxford Urban & Rural No.2, Partially met 66.3% (100% since UV commissioned) -Woodend–Pegasus, All met 100% -Rangiora, None met 0% -Waikuku Beach, All met 100% -West Eyreton, None met 0%
(j) 4.11.5 D3.29 Microbiological Monitoring Rule.	-Kaiapoi, All met 100% -Mandeville, All met 100% -Oxford Rural No.1, All met 100% -Oxford Urban & Rural No.2, All met 100% -Woodend–Pegasus, All met 100% -Rangiora, All met 100% -Waikuku Beach, All met 100% -West Eyreton, All met 100%

A brief explanation is provided below as to the status of each supply.

Cust: Complied at the treatment plant for all days except two (20-21 April 2025) using UV disinfection. The non-compliances were related to an instance of communication failure and inability to recover all data. During this event the UV system was still operating, but compliance data is not available for assessment. Distribution zone fully complied with the microbiological requirements. The data gap is a technical issue and did not present a risk to the safety of the water. *E.coli* and total coliform monitoring complied in the zone.

Garrymere: The treatment met all the relevant T2 requirements with cartridge filters, UV disinfection and chlorination. *E.coli* and total coliform monitoring complied in the zone.

Kaiapoi: Darnley Square and Peraki Street treatment plants have insufficiently sized reservoirs so were unable to demonstrate compliance with chlorine contact time requirements when online during the compliance period. Darnley Square had UV disinfection installed on 1 February 2025 and Peraki Street on 1 January 2025. Both bacterial and protozoa compliance was generally met from those dates. *E.coli* and total coliform monitoring complied in the zone.

Mandeville: Missing minutes were recorded at the Two Chain Road treatment plant during 26th September 2024 due to a communication failure and inability to recover all data. During this event the UV system was still operating, but compliance data was not available for 32 minutes. There was also an issue with UVT monitoring on 11th February 2025. Otherwise, UV disinfection and turbidity requirements were met at the plant over 99.7% of the time. *E.coli* monitoring frequency and results complied in the zone.

Ohoka: Chlorine is in place at the treatment plant, however during times of high demand contact time cannot be met, but overall chlorine levels were adequate. There was a data loss incident that effected 4 days of data from 17-20 April 2025. The Ohoka bore has been designated as Class 1 therefore not requiring a protozoa barrier. *E.coli* monitoring frequency and results complied in the zone.

Oxford Rural No.1: This supply had three treatment plants McPhedrons Road, Rockford Road and Deep Bore, however only McPhedrons Road was used during the compliance period. UV was installed at this plant in May 2024 and has met all the requirements since then. The supply is chlorinated but cannot meet the contact time requirements due to the absence of an onsite reservoir. *E.coli* and total coliform monitoring complied in the zone.

Oxford Urban and Rural No.2: The Domain Road bore sources feed into the Domain Road treatment plant, and supply drinking water to both Oxford Urban and Oxford Rural No.2 distribution zones. There are two other plants in this supply (Bay Road and Gammans Creek) however they were not used during the compliance period. Domain Road had UV disinfection installed in November 2024 and met all the requirements since then. Prior to November 2024 chlorine was used for compliance but as there was no onsite reservoir, chlorine contact time could not be demonstrated. *E.coli* monitoring fully complied for both distribution zones.

Woodend & Pegasus: Water for both zones is UV disinfected, and chlorine treated at the Pegasus treatment plant. The UV disinfection requirements (bacterial and protozoal) were met for the entire compliance period. *E.coli* and total coliform monitoring complied in the zone.

Rangiora: Chlorine initiated in November 2023. Issues with C.t not being met during high demand, plus data loss incidents caused by SCADA failure in January, February and April 2025. Overall bacterial compliance was 98.8%. There was also no protozoa barrier at this plant due to its designation as secure under the previous DWSNZ. *E.coli* and total coliform monitoring complied in the zone

Waikuku Beach: Both the Kings Avenue and Waikuku Campground water treatment plants met the requirements for UV disinfection for the compliance period. *E.coli* and total coliform monitoring complied in the zone.

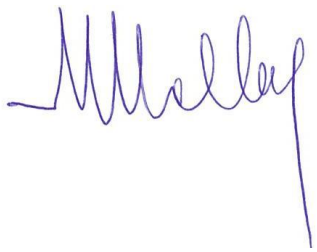
West Eyreton: Overall chlorine levels were adequate leaving the plant, but the contact time cannot be met without a reservoir. There is also no protozoa barrier at this plant due to its designation of bore water security under the previous drinking water standards. This supply has 3 distribution zones. West Eyreton, Poyntz Road and Summerhill. *E.coli* and total coliform monitoring complied in all the zones.

Overall, the results for the 2024/25 assessment period are a significant improvement over previous years. This is mainly due to the installation of UV disinfection to a number of supplies, which enables bacterial and protozoal compliance to be met. Chlorine levels at the relevant plants were also generally ok, however the lack of reservoirs in some sites prevented chlorine contact times being met. Waimakariri District Council continue to manage risks through the Water Safety Planning process and infrastructure upgrades.

A copy of the letter and report have been sent to AuditNZ at their request.

If you have any questions or queries, please contact the undersigned.

Kind regards



Matt Molloy
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Matt Molloy Consulting Ltd
Environmental and Public Health Consultant

Drinking Water Quality Assurance Rules 2022 (DWQAR) Compliance Recording Checklist

Waimakariri District Council (WDC) has duties under the Water Services Act 2021 to comply with the drinking water standards. This refers to the Water Services (Drinking Water Standards for New Zealand) Regulations 2022 and the implementation of these by meeting the Drinking Water Quality Assurance Rules 2022 (DWQAR).

Water Services Authority/Taumata Arowai is the government Department responsible for the regulation of drinking water in NZ, replacing the Ministry of Health and Drinking Water Assessors (DWA). Taumata Arowai (TA) took over regulatory responsibilities in November 2021, however they do not undertake a review or assessment of drinking water standards compliance for the 2024/25 compliance period that would meet the requirements of the reporting to meet the Department of Internal Affairs/Audit NZ measures. Further to that TA require supplies to provide regular reports and then report on assurance rules annually. This is an assessment of the calendar year as opposed to the DIA/Audit NZ period of a financial year. In June 2025 DIA provided clarification on the expected assessment and reporting methodology that is to be used for the 2024/25 audits. This is based on the TA process using an aggregate compliance rate methodology. Additional guidance was provided on what was expected to be assessed to meet 'performance measure 1' which relates to drinking water safety. The actual documents provided are embedded in this checklist below.


Council drinking water KPI methodol

Matt Molloy Consulting have been asked to provide specialist drinking water expertise to independently review compliance with the DWQAR, which have replaced the previous drinking water standards. The assessments under the DWQAR follow a similar procedure that was used for the DWSNZ, using a methodology and an assessment checklist based on the DWA process. This has been subsequently modified to reflect the expectations of DIA/AuditNZ. The monitoring rules to show treatment plant bacterial and protozoal compliance were reviewed along with the bacterial compliance in the distribution zone. This covers the previous DWSNZ sections: Bacterial compliance (Section 4) and Protozoal compliance (Section 5). This also aligns with the DIA/AuditNZ performance measure 1 -safety of drinking water and the extent to which the Council drinking water supply complies with the relevant parts of the DWQAR.

The assessment details and process are in the Compliance Recording Sheet starting on page 3. The outcome for each treatment plant and distribution zone is summarised in the table on page 2. It should be noted that the DWQAR are a significant change to the previous DWSNZ (various revisions have been in place since 1984), and it will take some time for systems and monitoring to be adjusted accordingly.

SUMMARY OF COMPLIANCE

1 July 2024 – 30 June 2025

Water supply	Treatment plant		Distribution zone	
	Bacterial	Protozoa	Microbiological	
Cust	Almost met 99.5%	Almost met 99.5%	All met 100%	
Garrymere	All met 100%	All met 100%	All met 100%	
Kaiapoi	Darnley- Partially met 93.8%	Darnley – Partially met 41.9% (100% since commissioning)	All met 100%	
	Peraki- Partially met 92.6%	Peraki- Partially met 59.7% (99.1% since commissioning)		
Mandeville	Almost met 99.7%	Almost met 99.7%	All met 100%	
Ohoka	Almost met 98.7%	All met 100%	All met 100%	
Oxford Rural No.1	All met 100%	All met 100%	All met 100%	
Oxford Urban & Rural No.2	Partially met 93.9%	Partially met 66.3% (100% since commissioning)	Rural	All met 100%
			Urban	All met 100%
Woodend & Pegasus	All met 100%	All met 100%	Woodend	All met 100%
			Pegasus	All met 100%
Rangiora	Almost met 98.8%	None met 0%	All met 100%	
Waikuku Beach	Waikuku Beach- All met 100%	Waikuku Beach- All met 100%	All met 100%	
	Campground- All met 100%	Campground- All met 100%		
West Eyreton	Partially met 90.2%	None met 0%	Poyntz	All met 100%
			Summerhill	All met 100%
			West Eyreton	All met 100%

NOTES:

- The % relates to the overall compliance against all appropriate rules for that category (appropriate meaning those rules that DIA/AuditNZ have specifically identified in the guidance material)
- 100% = All met, 95-99.9% = Almost met, 0.01-94.9% = Partially met, 0% = None met.
- To ensure consistency across the reporting period, for level 2 supplies a monthly compliance period has been used for 2024 and 2025.

DWQAR Compliance Recording Sheet

GENERAL COMPLIANCE

Date	*July 2025* *1 July 2024 – 30 June 2025 -assessment undertaken in July/August 2025. Unless otherwise stated, the assessment is for the entire compliance period.*
Person completing assessment & experience	*Matt Molloy -Drinking Water Compliance Specialist* *Matt Molloy has over 30 years public health experience firstly with the Nelson Marlborough District Health Board and as a public health consultant over the last decade. Matt has specialised in drinking water compliance and consulted directly to many District Health Boards in New Zealand as a Drinking Water Assessor, to local authorities assisting with compliance/WSPs and also to the World Health Organisation as a Water Sanitation & Hygiene Specialist. Matt has worked as a Drinking Water Assessor for over 15 years in most parts of the country. Matt now provides independent 3rd party audits of drinking water compliance.*
Council audited, drinking water supply name and details.	List the Council being assessed. *Waimakariri District Council (WDC) water supplies;*

Water supply	**Treatment plant compliance**		
	Treatment plant	Bacterial	Protozoa
Cust	Cust	UV T3	UV T3
Garrymere	Garrymere	Cartridge filter & UV, chlorine T2	Cartridge filter & UV, chlorine T2
Kaiapoi	Darnley Square	Chlorine T3 (UV from 1/2/25)	UV from 1/2/25
	Peraki Street	Chlorine T3 (UV from 1/1/25)	UV from 1/1/25
Mandeville	Two Chain Road	UV T3	UV T3
Ohoka	Ohoka	Chlorine T3	Class 1
Oxford Rural No.1	McPhedrons Road	UV T3	UV T3

Oxford Urban & Rural No.2	Domain Road	Chlorine T3 (1/6/24 – 30/10/24) UV T3 from 1/11/24	UV T3 from 1/11/24
Woodend & Pegasus	Pegasus	UV T3	UV T3
Rangiora	South Belt	Chlorine T3	none
Waikuku Beach	Kings Avenue	UV T3	UV T3
	Campground	UV T3	UV T3
West Eyreton	West Eyreton	Chlorine T3	none

Water supply	**Distribution zone compliance**		
	Distribution zone	Bacterial	Residual disinfectant
Cust	Cust	D2	D2
Garrymere	Garrymere	D2	D2
Kaiapoi	Kaiapoi	D3	D3
Mandeville	Mandeville	D3	D3
Ohoka	Ohoka	D2	D2
Oxford Rural No.1	Oxford Rural No.1	D3	D3
Oxford Urban & Rural No.2	Oxford Rural No.2	D3	D3
	Oxford Urban	D3	D3
Woodend & Pegasus	Woodend	D3	D3
	Pegasus	D3	D3
Rangiora	Rangiora	D3	D3
Waikuku Beach	Waikuku Beach	D3	D3
West Eyreton	Poyntzs Road	D3	D3
	Summerhill	D3	D3
	West Eyreton	D3	D3

Information reviewed & method of data provision Electronic/paper/in person during visit – detail dates and reason for visit **Data Audit**	List each piece of information that was reviewed for each supply. *The assessment was partially undertaken remotely with the information being provided electronically. Access was provided to the Infrastructure Data database which contains the current monitoring and compliance information.* • *Infrastructure Data reports for all supplies. Contains plant and distribution zone compliance and samples for the entire assessment period 1/7/24-30/6/25.* • *Raw SCADA data for Domain Road, McPhedrons and Pegasus water treatment plants for March 2025.* • *Hill Labs reports for April 2025 monitoring of Total coliform and E.coli. Included sampling on 1/4/25, 3/4/25, 8/4/25, 10/4/25, 14/4/25, 15/4/25, 17/4/25, 22/4/25, 23/4/25, 24/4/25, 26/4/25, 27/4/25, 28/4/25 and 29/4/25.* • *UV validation certification for Darnley Square, Domain Road, Mandeville, Peraki, McPhedrons, Pegasus, Cust, Garrymere, Waikuku Beach and Waikuku Campground.* • *UVT manual monitoring data for the Waikuku Beach treatment plant.* • *Data verification was undertaken on all supplies that use continuous monitoring for compliance. This involved checking the actual SCADA data against what was reported in the monthly/quarterly reports. This was done with David Paz Lobon and Craig Freeman on 24-25/7/25. The data sighted lined up with what was reported to Taumata Arowai. A number of reported exceptions were also followed up and in all cases evidence was provided for apparent non-compliances.* *Overall the compliance was good, with ongoing upgrades of treatment facilities showing improvement in the DWQAR requirements being met. There were no discrepancies noted between any of the raw data and the summarised data in the Infrastructure Data database. Of particular note are the notes recorded against events that occur at the water treatment plant. Between the ID database, SCADA data and staff notes, all events that were followed up were able to be explained. This is exactly what should be done and shows very good industry practice.* *It should be noted that using the 'aggregate compliance methodology' the results for the 2024/25 period are presented differently than in previous assessments. They follow the approach and presentation requested by DIA/AuditNZ. They will further allow consistency in assessment and reporting across all drinking water supplies.* *The full list of determinands that DIA/AuditNZ wish to be reported on are listed in the enclosed document 'Council drinking water KPI methodology' and further detailed on the Taumata Arowai website (link included below)* *https://www.taumataarowai.govt.nz/for-water-suppliers/monitoring-water-quality/*

	In the tables throughout the report, any requirements that have not been met have been identified in red. Figures in orange indicate that they initially were not met, however appropriate disinfection was in place to show overall compliance. For example, UV dose may not be adequate for disinfection, but chlorine fully complied at the time, then overall compliance can be granted. Orange has also been used when a single UV reactor shows a fail but when assessed against overall plant run time it was less than 5%. This is consistent with the approach provided by DIA/AuditNZ. Where appropriate, the number of days met for each month have been listed in a table so compliance per month can be easily seen. If all the requirements for every month have been met, then a tick (V) has been used.

WATER SUPPLY ASSESSMENTS

Performance measure 1 -safety of drinking water and the extent to which the Council drinking water supply complies with the relevant parts of the DWQAR.

The following Waimakariri District Council drinking water supplies have been subject to assessment and reporting.

1. Cust
2. Garrymere
3. Kaiapoi
4. Mandeville
5. Ohoka
6. Oxford Rural No.1
7. Oxford Urban & Rural No.2
8. Woodend & Pegasus
9. Rangiora
10. Waikuku Beach
11. West Eyreton

The table below reflects the DIA/AuditNZ non-financial performance indicators that require reporting and the 2024-25 results.

Performance measure one (safety of drinking water)	Results (2024-2025)
(a) 4.4 T1 Treatment Rules;	Not applicable to WDC.
(b) 4.5 D1.1 Distribution System Rule;	Not applicable to WDC.
(c) 4.7.1 T2 Treatment Monitoring Rules;	Garrymere, All met 100%
(d) 4.7.2 T2 Filtration Rules;	Garrymere, All met 100%
(e) 4.7.3 T2 UV Rules;	Garrymere, All met 100%

(f) 4.7.4 T2 Chlorine Rules;	Garrymere, All met 100%
(g) 4.8 D2.1 Distribution System Rule;	-Garrymere, All met 100% -Cust, All met 100% -Ohoka, All met 100%
(h) 4.10.1 T3 Bacterial Rules;	-Cust, Almost met 99.5% -Kaiapoi, Partially met 93.2% -Mandeville, Almost met 99.7% -Ohoka, Almost met 98.7% -Oxford Rural No.1, All met 100% -Oxford Urban & Rural No.2, Partially met 93.9% -Woodend – Pegasus, All met 100% -Rangiora, Partially met 98.8% -Waikuku Beach, All met 100% -West Eyreton, Partially met 90.2%
(i) 4.10.2 T3 Protozoal Rules;	-Cust, Almost met 99.5% -Kaiapoi, Partially met 50.8% (99.5% since UV was commissioned) -Mandeville, Almost met 99.7% -Ohoka, All met 100% -Oxford Rural No.1, All met 100% -Oxford Urban & Rural No.2, Partially met 66.3% (100% since UV commissioned) -Woodend–Pegasus, All met 100% -Rangiora, None met 0% -Waikuku Beach, All met 100% -West Eyreton, None met 0%
(j) 4.11.5 D3.29 Microbiological Monitoring Rule.	-Kaiapoi, All met 100% -Mandeville, All met 100% -Oxford Rural No.1, All met 100% -Oxford Urban & Rural No.2, All met 100% -Woodend–Pegasus, All met 100% -Rangiora, All met 100% -Waikuku Beach, All met 100% -West Eyreton, All met 100%

1. Cust

Deep bore water source with UV as primary disinfection (bacterial and protozoal) and chlorine for residual disinfection in the distribution zone. There is a single zone that supplies water to less than 500 people. The applicable rules are T3 and D2. Springbank source 70+ m. (below ground in chamber) so not a sanitary borehead. UV is intensity based and validated to the DVGW standard. A tick denotes that the parameter was met for the entire compliance period. Compliance was met for most parameters with the exception of the data gap in April 2025. Reported data gap on 6 April, however an explanation and evidence were provided to show that this was not the case.

T3 Treatment Plant Protozoa UV rules

	Individual compliance rules													
	T3.85	T3.86	T3.87	T3.88	T3.89	T3.90	T3.91-cert	T3.91-dose/uvi	T3.91-flow	T3.91-sens	T3.91-turb	T3.91-uvT	Total from 4380 days	Compliance rate and comments
Cust	√	363/365	363/365	363/365	363/365	363/365	√	363/365	363/365	√	363/365	363/365	4362 /4380 days met	20 April data gap that goes into 21st. **Almost met 99.5%**

T3 Treatment Plant Bacterial UV rules

	Individual compliance rules								
	T3.15-sens	T3.15-flow	T3.15-turb	T3.15-uvt	T3.16	T3.17	T3.18	Total from 2555 days	Compliance rate and comments
Cust	√	363/365	363/365	363/365	363/365	363/365	363/365	2543/2555 days met	As above. **Almost met 99.5%**

D2 Distribution zone Microbiological rules 2024 and 2025

	Individual compliance rules					
	D2.1-ecol 2024	D2.1-coli 2024	D2.1a 2025	D2.1b 2025	Total from 730 days	Compliance rate and comments
Cust	√	√	√	√	730/730 days met	**All met 100%**

2. Garrymere

Shallow bore water source with cartridge filtration and UV as primary disinfection (bacterial and protozoal) and chlorine for residual disinfection in the distribution zone. There is a single zone that supplies water to less than 500 people. The applicable rules are T2 and D2. All the appropriate monitoring and reporting rules were met for the entire compliance period.

T2 Treatment Plant Protozoa rules 2024

	Individual compliance rules -protozoa																
	T2.1-turb	T2.1-flow	T2.1-ph	T2.1-ecol	T2.1-coli	T2.1-uvt	T2.2-coli	T2.2-ecol	T2.3 -filter	T2.4-filter	T2.10-uv	T2.11-uv	T2.12-uv	T2.13-uv	T2.14-uv	Total from 2760 days	Compliance rate and comments
Garrymere	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	2760/2760 days met	Cartridge filter and UV met requirements along with the required monitoring to show overall compliance **All met 100%**

T2 Treatment Plant Bacterial rules 2024

	Individual compliance rules													
	T2.1-turb	T2.1-flow	T2.1-ph	T2.1-ecol	T2.1-coli	T2.1-uvt	T2.2-coli	T2.2-ecol	T2.18	T2.19	T2.20	T2.21	Total from 2208 days	Compliance rate and comments
Garrymere	√	√	√	√	√	√	√	√	√	√	√	√	2208/2208 days met	Chlorine and pH requirements met along with the required monitoring to show overall compliance **All met 100%**

T2 Treatment Plant Protozoa rules 2025

	Individual compliance rules protozoa													
	T2.1-a	T2.1-b	T2.2-a	T2.2-b	T2.2-c	T2.7-(a-d) filt	T2.6-a filt	T2.9-a uv	T2.10-d(i-v) uv	T2.10-c uv	T2.10-e.i uv	T2.10-e.ii uv	Total from 2172 days	Compliance rate and comments
Garrymere	√	√	√	√	√	√	√	√	√	√	√	√	2172/ 2172 days met	Cartridge filter and UV met requirements along with the required monitoring to show overall compliance **All met 100%**

T2 Treatment Plant Bacterial rules 2025

	Individual compliance rules Bacto									
	T2.1-a	T2.1-b	T2.2-a	T2.2-b	T2.2-c	T2.6-b	T2.6-c	T2.9-b	Total from 1448 days	Compliance rate and comments
Garrymere	√	√	√	√	√	√	√	√	1448/1448 days met	Chlorine and pH requirements met along with the required monitoring to show overall compliance **All met 100%**

D2 Distribution Microbiological zone rules 2024 and2025

	Individual compliance rules					
	D2.1-ecol 2024	D2.1-coli 2024	D2.1-a 2025	D2.1-b 2025	Total from 730 days	Compliance rate and comments
Garrymere	√	√	√	√	730/730 days met	March 2025 ID reports that sample missing but details sighted of samples taken in March from plant and zone. **All met 100%**

3. Kaiapoi

Groundwater sources with chlorine disinfection (UV commissioned at Darnley 1/2/25 and Peraki 1/1/25). There is a single zone that supplies water to over 500 people. The applicable rules are T3 and D3. Instances of UVT failures but upon investigation these were short runs for a particular reactor and when using combined run time figures the rules have been met. Overall bacterial at Darnley using chlorine and UV is 93.8% for the compliance period and

T3 Treatment Plant Protozoa UV rules -Darnley (from 1/2/25-30/6/25)

	Individual compliance rules													
	T3.85	T3.86	T3.87	T3.88	T3.89	T3.90	T3.91-cert	T3.91-dose/uvi	T3.91-flow	T3.91-sens	T3.91-turb	T3.91-uvT	Total from 1800 days	Compliance rate and comments Plant was operational for equivalent of 1800 days during compliance period.
Feb	28/28	28/28	28/28	28/28	28/28	28/28	28/28	28/28	28/28	28/28	28/28	28/28	1800/1800 days met	
Mar	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31		
Apr	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30		
May	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31		
Jun	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30		
														All met 100%

Note: 2580 days without UV + 1800 days of operation. **Darnley Annual protozoa 1800/4380 = 41.9%**, 100% since commissioning.

T3 Treatment Plant Bacterial UV rules -Darnley (from 1/2/25-30/6/25)

	Individual compliance rules								
	T3.15-sens	T3.15-flow	T3.15-turb	T3.15-uvt	T3.16	T3.17	T3.18	Total from 1050 days	Compliance rate and comments Plant was operational from equivalent of 1050 days during compliance period.
Feb	28/28	28/28	28/28	28/28	28/28	28/28	28/28	1050/1050 days met	
Mar	31/31	31/31	31/31	31/31	31/31	31/31	31/31		
Apr	30/30	30/30	30/30	30/30	30/30	30/30	30/30		
May	31/31	31/31	31/31	31/31	31/31	31/31	31/31		
Jun	30/30	30/30	30/30	30/30	30/30	30/30	30/30		
									All met 100%

T3 Treatment Plant Bacterial chlorine rules -Darnley (from 1/7/24-31/1/25)

	Individual compliance rules													
	T3.1-C.t	T3.1-fac	T3.1-face	T3.1-flow	T3.1-ph	T3.1-t10	T3.1-turb	T3.2	T3.3	T3.4	T3.5	T3.6	Total from 2412 days	Compliance rate and comments (compliance assessed over 201 days x 12 = 2412)
July	17/17	17/17	17/17	17/17	17/17	17/17	17/17	0/17	17/17	17/17	17/17	17/17	2198/2412 days met	Offline for 14 days
Aug	31/31	31/31	31/31	31/31	31/31	31/31	31/31	0/31	31/31	31/31	31/31	31/31		
Sep	30/30	30/30	30/30	30/30	30/30	30/30	30/30	0/30	30/30	30/30	30/30	30/30		
Oct	30/31	30/31	30/31	31/31	30/31	31/31	31/31	0/31	31/31	27/31	31/31	31/31		29 Oct FAC & pH analysers offline
Nov	30/30	30/30	30/30	30/30	30/30	30/30	30/30	1/30	30/30	29/30	30/30	30/30		
Dec	31/31	31/31	31/31	31/31	31/31	31/31	31/31	0/31	31/31	26/31	31/31	31/31		
Jan	31/31	31/31	31/31	31/31	31/31	31/31	31/31	0/31	31/31	31/31	31/31	31/31		
														Partially met 91.1%

Note: Overall Darnley bacterial using chlorine and UV is 93.8% for the compliance period.

T3 Treatment Plant Protozoa UV rules -Peraki St (from 1/1/25-30/6/25)

	Individual compliance rules													
	T3.85	T3.86	T3.87	T3.88	T3.89	T3.90	T3.91-cert	T3.91-dose/uvi	T3.91-flow	T3.91-sens	T3.91-turb	T3.91-uvT	Total from 2172 days	Compliance rate and comments (compliance assessed over 181 days x 12 = 2172)
Jan	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	2152/2172 days met	
Feb	28/28	28/28	28/28	28/28	28/28	28/28	28/28	28/28	28/28	28/28	28/28	28/28		
Mar	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31		
Apr	29/30	29/30	29/30	29/30	29/30	29/30	30/30	29/30	29/30	30/30	29/30	29/30		196 minutes missing 2 Apr 2025
May	30/31	30/31	30/31	30/31	30/31	30/31	31/31	30/31	30/31	31/31	30/31	30/31		159 minutes missing 14 May 2025
Jun	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30		
														Partially met 99.1%

Note: 2208 days without UV (1428 as offline for 65 days) + 2172 days in 2025 when UV operating. **Peraki Annual protozoa 2152/3600 = 59.7%** (99.1% since commissioning)

T3 Treatment Plant Bacterial UV rules -Peraki St (from 1/1/25-30/6/25)

	Individual compliance rules								
	T3.15-sens	T3.15-flow	T3.15-turb	T3.15-uvt	T3.16	T3.17	T3.18	Total from 1267 days	Compliance rate and comments (compliance assessed over 181 days x 7 = 1267)
Jan	31/31	31/31	31/31	31/31	31/31	31/31	31/31	1255/1267 days met	
Feb	28/28	28/28	28/28	28/28	28/28	28/28	28/28		
Mar	31/31	31/31	31/31	31/31	31/31	31/31	31/31		
Apr	30/30	29/30	29/30	29/30	29/30	29/30	29/30		196 minutes missing 2 Apr 2025
May	31/31	30/31	30/31	30/31	30/31	30/31	30/31		159 minutes missing 14 May 2025
Jun	30/30	30/30	30/30	30/30	30/30	30/30	30/30		
									Almost met 99.1%

T3 Treatment Plant Bacterial chlorine rules -Peraki St (from 1/7/24-31/12/24)

	Individual compliance rules													
	T3.1-C.t	T3.1-fac	T3.1-face	T3.1-flow	T3.1-ph	T3.1-t10	T3.1-turb	T3.2	T3.3	T3.4	T3.5	T3.6	Total from 1440 days	Compliance rate and comments (compliance assessed over 120 days x 12 = 1440 which reflects when plant running)
July	31/31	31/31	31/31	31/31	31/31	31/31	31/31	0/31	31/31	17/31	31/31	31/31	1240/1440 days met	
August	31/31	31/31	31/31	31/31	31/31	31/31	31/31	0/31	31/31	30/31	31/31	31/31		
Sept														Plant offline
Oct														Plant offline
Nov	26/27	26/27	26/27	26/27	26/27	26/27	26/27	0/27	26/27	11/27	27/27	27/27		4th back on, comms outage on 25 Nov
Dec	28/31	28/31	28/31	28/31	28/31	28/31	28/31	0/31	29/31	13/31	31/31	31/31		3 days data loss in Dec-24
														Partially met 86.1%

<u>Note: Overall Peraki bacterial using chlorine and UV is 92.6% for the compliance period.</u>

D3 Distribution zone Microbiological rules

	Individual compliance rules				
	D3.29	D3.29-ecol	D3.29-coli	Total from 1095 days	Compliance rate and comments
Kaiapoi	√	√	√	1095/1095 days met	**All met 100%**

4. Mandeville

Groundwater source with UV as primary disinfection (bacterial and protozoal) and chlorine for residual disinfection in the distribution zone. There is a single zone that supplies water to over 500 people. The applicable rules are T3 and D3.

T3 Treatment Plant Protozoa UV rules

	Individual compliance rules													
	T3.85	T3.86	T3.87	T3.88	T3.89	T3.90	T3.91-cert	T3.91-dose/uvi	T3.91-flow	T3.91-sens	T3.91-turb	T3.91-uvT	Total from 4380 days	Compliance rate and comments
							√			√			13 equivalent days not met. 4367/4380 days met 99.7%	All parameters met except: 23 and 26 Sept -reported data loss, 23rd ok but fails all on the 26th for UV1. 11 Feb UVT meter failure (T3.89) only T3.89/T3.90/T3.91-uvT **Almost met 99.7%**
September 2024 (from 30 days)	29	29	29	29	29	29	30	29	29	30	29	29		
February 2025 (from 28 days)	28	28	28	28	27	27	28	28	28	28	28	27		

T3 Treatment Plant Bacterial UV rules

	Individual compliance rules								
	T3.15-sens	T3.15-flow	T3.15-turb	T3.15-uvt	T3.16	T3.17	T3.18	Total from 2555 days	Compliance rate and comments
September 2024 (from 30 days)	√ 29	√ 29	√ 29	√ 29	√ 29	√ 29	√ 29	7 equivalent days NC 2548/2555 days met 99.7%	All parameters met except: 23 and 26 Sept -reported data loss, 23rd ok but fails all on the 26th for UV1. One day not met for all parameters **Almost met 99.7%**

D3 Distribution zone Microbiological rules

	Individual compliance rules				
	D3.29	D3.29-ecol	D3.29-coli	Total from 1095 days	Compliance rate and comments
Mandeville	√	√	√	1095/1095 days met	**All met 100%**

5. Ohoka

Deep bore with sanitary borehead and chlorine disinfection. There is a single zone that supplies water to less than 500 people. The applicable rules are T3 and D2. The data loss in April 2025 and a few days where contact time could not be met prevented full compliance.

T3 Treatment Plant Protozoa

Class 1. **Assessed as 100% compliant = All met**.

T3 Treatment plant Bacterial chlorine rules

	Individual compliance rules													
	T3.1-C.t	T3.1-fac	T3.1-face	T3.1-flow	T3.1-ph	T3.1-t10	T3.1-turb	T3.2	T3.3	T3.4	T3.5	T3.6	Total from 4380 days	Compliance rate and comments
Jul	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	4321/4380 days met	From Jul-Sep 2024 ongoing turbidity issues relating to location of meter. Was reading high when plant was off. Turbidity demonstrated.*
Aug	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31		
Sep	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30		
Oct	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31		
Nov	30/30	30/30	30/30	30/30	30/30	30/30	30/30	28/30	30/30	30/30	30/30	30/30		
Dec	31/31	31/31	31/31	31/31	31/31	31/31	31/31	26/31	31/31	31/31	31/31	31/31		
Jan	31/31	31/31	31/31	31/31	31/31	31/31	31/31	30/31	31/31	31/31	31/31	31/31		
Feb	28/28	28/28	28/28	28/28	28/28	28/28	28/28	26/28	28/28	28/28	28/28	28/28		
Mar	31/31	31/31	31/31	31/31	31/31	31/31	31/31	30/31	31/31	31/31	31/31	31/31		
Apr	26/30	26/30	26/30	26/30	26/30	26/30	26/30	26/30	26/30	26/30	26/30	26/30		17-20 Apr loss of data
May	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31		
Jun	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30		
														Almost met 98.7%

* As part of the remedy the turbidimeter was reported to have been moved. WDC need to ensure that it is located after the prescribed disinfection contact time as required by T3.1-turb.

D2 Distribution Microbiological zone rules 2024 and 2025

	Individual compliance rules					
	D2.1-ecol 2024	D2.1-coli 2024	D2.1-a 2025	D2.1-b 2025	Total from 730 days	Compliance rate and comments
Ohoka	√	√	√	√	730/730 days met	**All met 100%**

6. Oxford Rural No.1

Groundwater source with UV as primary disinfection (bacterial and protozoal) and chlorine for residual disinfection in the distribution zone. There is a single zone that supplies water to over 500 people. The applicable rules are T3 and D3. Note that Rockford bore and Deep bore were not used during the compliance period. The Oxford Rural No.1 supply met all the requirements.

T3 Treatment Plant Protozoa UV rules -McPhedrons Road

	Individual compliance rules													
	T3.85	T3.86	T3.87	T3.88	T3.89	T3.90	T3.91-cert	T3.91-dose/uvi	T3.91-flow	T3.91-sens	T3.91-turb	T3.91-uvT	Total from 4380 days	Compliance rate and comments
	√	√	√	√	√	√	√	√	√	√	√	√	4380/4380 days met	**All met 100%**

T3 Treatment Plant Bacterial UV rules -McPhedrons Road

	Individual compliance rules								
	T3.15-sens	T3.15-flow	T3.15-turb	T3.15-uvt	T3.16	T3.17	T3.18	Total from 2555 days	Compliance rate and comments
	√	√	√	√	√	√	√	2555/2555 days met	**All met 100%**

D3 Distribution zone Microbiological rules

	Individual compliance rules				
	D3.29	D3.29-ecol	D3.29-coli	Total from 1095 days	Compliance rate and comments
Oxford Rural No.1	√	√	√	1095/1095 days met	**All met 100%**

7. Oxford Urban & Rural No.2

Groundwater source with UV as primary disinfection (bacterial and protozoal from 1/11/24 =242 days) and chlorine for disinfection from 1/7/24-31/10/24 (123 days) for treatment compliance and residual disinfection in the distribution zone. Due to a lack of onsite storage the chlorine contact times were not met, however the UV was shown to be met since commissioning. There are two zones that supply water to over 500 people in each. The applicable rules are T3 and D3. Bay Road and Gammans Creek plants were not used during the compliance period.

T3 Treatment Plant Protozoa UV rules -Domain Road (from 1/11/24 - 30/6/25)

	Individual compliance rules													
	T3.85	T3.86	T3.87	T3.88	T3.89	T3.90	T3.91-cert	T3.91-dose/uvi	T3.91-flow	T3.91-sens	T3.91-turb	T3.91-uvT	Total from 2904 days	Compliance rate and comments (compliance assessed over 242 days x 12 = 2904)
	√	√	√	√	√	√	√	√	√	√	√	√	2904/2904 days met	Outage in Dec but data recovered. All other exceptions also explained. **All met 100%**

Over the compliance period (4380 days), since the UV was running 2904/4380 days = 66.3% and 100% since commissioning.

T3 Treatment Plant Bacterial UV rules -Domain Road (from 1/11/24 - 30/6/25)

	Individual compliance rules								
	T3.15-sens	T3.15-flow	T3.15-turb	T3.15-uvt	T3.16	T3.17	T3.18	Total from 1694 days	Compliance rate and comments (compliance assessed over 242 days x 12 = 1694)
	√	√	√	√	√	√	√	1694/1694 days met	Outage in Dec but data recovered. All other exceptions also explained. **All met 100%**

T3 Treatment Plant Bacterial Chlorine rules -Domain Rd (from 1/7/24 – 31/10/24)

	Individual compliance rules													
	T3.1-C.t	T3.1-fac	T3.1-face	T3.1-flow	T3.1-ph	T3.1-t10	T3.1-turb	T3.2	T3.3	T3.4	T3.5	T3.6	Total from 1476 days	Compliance rate and comments (compliance assessed over 123 days x 12 = 1476)
Jul	30/31	30/31	30/31	30/31	30/31	30/31	30/31	0/31	31/31	0/31	31/31	31/31	1205/1476 days met	18 July 2024 data loss
Aug	31/31	31/31	31/31	31/31	31/31	31/31	31/31	0/31	31/31	0/31	31/31	31/31		
Sep	30/30	30/30	30/30	30/30	30/30	30/30	30/30	0/30	22/30	0/30	27/30	30/30		
Oct	31/31	31/31	31/31	31/31	31/31	31/31	31/31	0/31	29/31	0/31	31/31	31/31		
														Partially met 81.6%

Overall 93.9% bacterial if use chlorine and UV compliant day% for each date period.

D3 Distribution zone Microbiological rules -Oxford Rural No.2 & Oxford Urban

	Individual compliance rules				
	D3.29	D3.29-ecol	D3.29-coli	Total from 1095days	Compliance rate and comments
Oxford Rural No.2	√	√	√	1095/1095 days met	**All met 100%**
Oxford Urban	√	√	√	1095/1095 days met	**All met 100%**

8. Woodend & Pegasus

Groundwater source with UV as primary disinfection (bacterial and protozoal) and chlorine for residual disinfection in the distribution zone. There are two zones that supply water to over 500 people in each. The applicable rules are T3 and D3. UV from 1/7/24. ID shows multiple failures but all have appropriate explanations and evidence from screen shots or Datran. The chlorine compliance was also checked and over the period of the year all the monitoring requirements were met 99% of the time. The Woodend and Pegasus water supply met all the requirements.

T3 Treatment Plant Protozoa UV rules

	Individual compliance rules													
	T3.85	T3.86	T3.87	T3.88	T3.89	T3.90	T3.91-cert	T3.91-dose/uvi	T3.91-flow	T3.91-sens	T3.91-turb	T3.91-uvT	Total from 4380 days	Compliance rate and comments
	√	√	√	√	√	√	√	√	√	√	√	√	4380/4380 days met	**All met 100%**

T3 Treatment Plant Bacterial UV rules

	Individual compliance rules								
	T3.15-sens	T3.15-flow	T3.15-turb	T3.15-uvt	T3.16	T3.17	T3.18	Total from 2555 days	Compliance rate and comments
	√	√	√	√	√	√	√	2555/2555 days met	**All met 100%**

D3 Distribution zone Microbiological rules -Woodend & Pegasus

	Individual compliance rules				
	D3.29	D3.29-ecol	D3.29-coli	Total from 1095 days	Compliance rate and comments
Woodend	√	√	√	1095/1095 days met	**All met 100%**
Pegasus	√	√	√	1095/1095 days met	**All met 100%**

9. Rangiora

Groundwater source with chlorine for treatment and residual disinfection in the distribution zone. Overall chlorine levels were adequate leaving the plant, but the contact time could not be met at times due to high demand. There is also no protozoa barrier at this plant due to its designation of bore water security under the previous drinking water standards.

T3 Treatment Plant Protozoa -

There is no protozoa treatment. **Assessed as 0% compliant =none met**.

T3 Treatment Plant Bacterial Chlorine rules

	Individual compliance rules													
	T3.1-C.t	T3.1-fac	T3.1-face	T3.1-flow	T3.1-ph	T3.1-t10	T3.1-turb	T3.2	T3.3	T3.4	T3.5	T3.6	Total from 4380 days	Compliance rate and comments
July 2024	31/31	31/31	31/31	31/31	31/31	31/31	31/31	30/31	31/31	31/31	29/31	29/31	4326/4380 days met	
Aug 2024	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	30/31		
Sep 2024	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30		
Oct 2024	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31		
Nov 2024	30/30	30/30	30/30	30/30	30/30	30/30	30/30	29/30	30/30	30/30	30/30	30/30		
Dec 2024	31/31	31/31	31/31	31/31	31/31	31/31	31/31	19/31	31/31	31/31	31/31	31/31		
Jan 2025	30/31	30/31	30/31	30/31	30/31	30/31	30/31	30/31	30/31	30/31	30/31	30/31		Missing minutes during 1 day
Feb 2025	27/28	27/28	27/28	27/28	27/28	27/28	27/28	27/28	27/28	27/28	27/28	27/28		Data loss during 1 day
Mar 2025	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31		Missing mins reported in ID but explanation provided
Apr 2025	30/31	30/31	30/31	30/31	30/31	30/31	30/31	30/31	30/31	30/31	30/31	30/31		Data loss 19 Apr
May 2025	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31	31/31		
June 2025	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30		
														Almost met 98.8%

D3 Distribution zone Microbiological rules

	Individual compliance rules				
	D3.29	D3.29-ecol	D3.29-coli	Total from 1095 days	Compliance rate and comments
Rangiora	√	√	√	1095/1095 days met	**All met 100%**

10. Waikuku Beach

Both sources are from groundwater with UV as primary disinfection (bacterial and protozoal) and chlorine for residual disinfection in the distribution zone. There is a single zone that supplies water to over 500 people. The applicable rules are T3 and D3.

T3 Treatment Plant Protozoa UV rules -Waikuku Beach and Campground

	Individual compliance rules													
	T3.85	T3.86	T3.87	T3.88	T3.89	T3.90	T3.91-cert	T3.91-dose/uvi	T3.91-flow	T3.91-sens	T3.91-turb	T3.91-uvT	Total from 4380 days	Compliance rate and comments
Waikuku Beach	√	√	√	√	√	√	√	√	√	√	√	√*	4380/4380 days met	*Continuous UVT monitoring not in place for compliance period, manual 2xweekly samples taken. UV validated to DVGM setpoint with design for 95% UVT. All manual monitoring shows >95%, so deemed to be met. **All met 100%**
Campground	√	√	√	√	√	√	√	√	√	√	√	√	4380/4380 days met	Instances where there may be issues have been adequately explained with evidence. **All met 100%**

T3 Treatment Plant Bacterial UV rules - Waikuku Beach and Campground

	Individual compliance rules								
	T3.15-sens	T3.15-flow	T3.15-turb	T3.15-uvt	T3.16	T3.17	T3.18	Total from 2555 days	Compliance rate and comments
Waikuku Beach	√	√	√	√	√	√	√	2555/2555 days met	See UVT comment above. **All met 100%**
Campground	√	√	√	√	√	√	√	2555/2555 days met	Instances where there may be issues have been adequately explained with evidence. **All met 100%**

D3 Distribution zone Microbiological rules

	Individual compliance rules				
	D3.29	D3.29-ecol	D3.29-coli	Total from 1095 days	Compliance rate and comments
Waikuku Beach	√	√	√	1095/1095 days met	**All met 100%**

11. West Eyreton

Groundwater source with chlorine for treatment and residual disinfection in the distribution zone. Overall chlorine levels were adequate leaving the plant, but the contact time cannot be met without a reservoir. There is also no protozoa barrier at this plant due to its designation of bore water security under the previous drinking water standards. There are three zones that supply water to over 500 people in each. The applicable rules are T3 and D3.

T3 Treatment Plant Protozoa -

There is no protozoa treatment. **Assessed as 0% compliant =none met**.

T3 Treatment Plant Bacterial Chlorine rules

	Individual compliance rules													
	T3.1-C.t	T3.1-fac	T3.1-face	T3.1-flow	T3.1-ph	T3.1-t10	T3.1-turb	T3.2	T3.3	T3.4	T3.5	T3.6	Total from 4380 days	Compliance rate and comments
July	31/31	31/31	31/31	31/31	31/31	31/31	31/31	0/31	31/31	31/31	31/31	31/31	3949/4380 days met	
Aug	31/31	31/31	31/31	31/31	31/31	31/31	31/31	0/31	31/31	31/31	31/31	31/31		
Sep	30/30	30/30	30/30	30/30	30/30	30/30	30/30	0/30	30/30	30/30	30/30	30/30		
Oct	31/31	31/31	31/31	31/31	31/31	31/31	31/31	0/31	31/31	31/31	31/31	31/31		
Nov	30/30	30/30	30/30	30/30	30/30	30/30	30/30	0/30	30/30	28/30	30/30	30/30		
Dec	31/31	31/31	31/31	31/31	31/31	31/31	31/31	0/31	31/31	30/31	31/31	31/31		
Jan	27/31	27/31	27/31	27/31	27/31	27/31	27/31	0/31	27/31	27/31	27/31	27/31		Data loss from 13-16 Jan
Feb	28/28	28/28	28/28	28/28	28/28	28/28	28/28	0/28	28/28	28/28	28/28	28/28		
Mar	31/31	31/31	31/31	31/31	31/31	31/31	31/31	0/31	31/31	31/31	31/31	31/31		
Apr	30/30	30/30	30/30	30/30	30/30	30/30	30/30	0/30	30/30	28/30	30/30	30/30		
May	31/31	31/31	31/31	31/31	31/31	31/31	31/31	0/31	31/31	24/31	31/31	31/31		
June	30/30	30/30	30/30	30/30	30/30	30/30	30/30	1/30	28/30	21/30	30/30	30/30		
														Partially met 90.2%

D3 Distribution zone Microbiological rules

	Individual compliance rules				
	D3.29	D3.29-ecol	D3.29-coli	Total from 1095 days	Compliance rate and comments
Poyntz Rd	√	√	√	1095/1095 days met	**All met 100%**
Summerhill	√	√	√	1095/1095 days met	
West Eyreton	√	√	√	1095/1095 days met	

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR INFORMATION

FILE NO and TRIM NO:	SEW-03-01-05 / 251030205990
REPORT TO:	UTILITIES AND ROADING COMMITTEE
DATE OF MEETING:	25 November 2025
AUTHOR(S):	Sophie Allen – Water Environment Advisor
SUBJECT:	Midge monitoring and management at wastewater treatment plants 2024-25

ENDORSED BY:
(for Reports to Council, Committees or Boards)

Department Manager

Chief Executive

1. SUMMARY

1.1. This report details work to control the nuisance of non-biting midges, such as the native species *Chironomus zealandicus* (commonly known as the New Zealand midge), for localised neighbours of the Kaiapoi and Woodend wastewater treatment plants (WWTPs).

1.2. The presence of midges has generated service requests and unofficial complaints from neighbour residents of the Kaiapoi and Woodend WWTPs, where the midges are breeding. There is an Environment Canterbury consent requirement to have an insect control management plan under consent CRC041049 for the Kaiapoi WWTP. Hence, the Council has a responsibility to manage this issue.

1.3. Midge management plans prepared for Kaiapoi WWTP historically focused on insecticide usage. Due to environmental concerns of insecticide usage, insecticide resistance, costs and other practicalities, alternative methods to insecticides have been trialled; namely larval disruption dredging in summers the 2020-25 at the Kaiapoi WWTP, vegetable oil surfactant spraying 2021-25 and *Bacillus thuringiensis* serotype *israelensis* (Bti) 2023-25 at the Woodend WWTP.

1.4. In the previous annual report (2023/24), it was noted that an update to the insect control management plan for Kaiapoi WWTP and Woodend WWTP would be submitted shortly afterwards. This was submitted to Environment Canterbury in August 2024 to satisfy the conditions of consent CRC041049 regarding Kaiapoi WWTP. The updated plan focussed on non-insecticide control methods.

1.5. This report summarises;

1.5.1. the larval disruption dredging, vegetable oil surfactant and Bti management techniques that have been trialled at the Kaiapoi and Woodend WWTPs.

1.5.2. midge monitoring results for the summer of 2024-25 from Woodend and Kaiapoi wastewater treatment plants from midge emergence traps and yellow sticky traps.

1.5.3. the proposed midge monitoring and management for 2025-26 and beyond.

Midge Dredging

1.6. Midge dredging potentially reduced midge populations with some evidence of a minor effect when applied, however there were midge population spikes observed in early December 2024 and early January 2025, which dredging did not prevent (see Figure 3).

Problems with assessing control versus treatment areas for the dredging has made correlation of effects difficult to assess. This issue was partially addressed by replacing midge emergence traps with on-shore yellow sticky traps monitoring at Kaiapoi WWTP in 2024-25.

Bacillus thuringiensis serotype *israelensis* (Bti) Treatment

1.7. A Bti treatment trial at Woodend WWTP in November-December 2023 appeared effective at reducing midge densities in treated areas when applied at the recommended dosage rate from larval count and midge emergence count data, however the control area also saw a decrease in midge densities indicating that environmental or climate conditions may have led to reduction in midge densities. Bti applied in November-December 2024 followed just after a significant drop in adult emergence trap counts, indicating again in 2024-25 that Bti application might not have been the primary driver for an observed drop in midges numbers (see Figure 5). Other factors such as algal population variations and oxygen levels may be leading to midge spikes and/or reduction in numbers and is recommended to be examined further by WDC staff.

Vegetable Oil

1.8. A vegetable oil application trial at Woodend WWTP for the 2024-25 season appears to show that application to the water surface was ineffective at reducing midge numbers, with lower midge numbers in the control wetland with no vegetable oil application than in the wetland that was treated weekly (see Figure 5). Vegetable oil application has been previously anecdotally reported as successful by neighbours, although other factors may have impacted midge numbers.

2. RECOMMENDATION

THAT the Utilities and Roading Committee

(a) **Receives** Report No. 251030205990.

(b) **Notes** the use of the larval disruption dredging, vegetable oil surfactant spreading and *Bacillus thuringiensis* (Bti) techniques are being employed at Kaiapoi and Woodend Wastewater Treatment Plants (WWTPs) for midge management.

(c) **Notes** that Bti treatment at Woodend WWTP in November-December 2024 was applied immediately after a sharp reduction in midge numbers, and therefore the reduction in midges is likely caused by other factors and may not be related to the Bti treatment.

(d) **Notes** that the vegetable oil trial at Woodend WWTP 2024-25 (with control and treatment areas) showed no decrease in midge numbers with the vegetable oil treatment. WDC staff therefore plan to review the use of vegetable oil at Woodend WWTP for future use.

(e) **Notes** that midge monitoring (and treatment methods when required) commenced earlier in spring in 2024-25, i.e. from the beginning September 2024, rather than in October in previous years, as complaints from neighbours indicate that midges are first emerging from the beginning of September or even earlier.

(f) **Notes** that in 2024-25 at Kaiapoi WWTP, yellow sticky traps were installed for monitoring as a replacement for emergence traps used in previous years, as a preferred monitoring technique.

(g) **Notes** the cost of midge management for Kaiapoi and Woodend WWTP is estimated to have been approximately $42,167 (excl. GST) and $17,706 (excl. GST) respectively for the 2024-2025 season, with an additional cost of $4,357 (excl. GST) for midge emergence trap and yellow sticky trap monitoring costs for both WWTPs, sourced from existing operational budgets. There is cost-saving with monitoring as the ecological contractors are also present on site to carry out avian botulism inspections.

(h) **Notes** that WDC staff will continue to communicate proactively with affected residents about midge management.

(i) **Notes** that WDC has submitted an updated insect control management plan (entitled 'Midge Management Plan - Kaiapoi and Woodend Wastewater Treatment Plants') focusing on non-insecticide control methods, to Environment Canterbury in August 2024 as fulfilment of a condition in consent CRC041049.

(j) **Circulates** this report for information to the Kaiapoi-Tuahiwi and Woodend-Sefton Community Boards.

3. BACKGROUND

3.1. The presence of native non-biting midge species, *Chronomus zealandicus*, has generated service requests and unofficial complaints from neighbour residents of the Kaiapoi and Woodend WWTPs, where the midges are breeding. The complaints are particularly from residents on the western sides of both plants, which is likely due to the prevalent wind direction from the north-east.

3.2. There is an Environment Canterbury consent requirement to have an insect control management plan under consent CRC041049 for the Kaiapoi WWTP. An insect control management plan was first lodged with Environment Canterbury in February 2006. An updated management plan was submitted in August 2024. Under consent CRC041049 for Kaiapoi WWTP the consent holder (WDC) shall supply to the Canterbury Regional Council within three months of granting of the consent an Insect Control Management Plan. This plan shall include but not necessarily be limited to:

3.2.1. Surveillance methodology

3.2.2. Control methodology

3.2.3. Trigger levels

3.2.4. Consultation with community

3.2.5. Reporting

3.2.6. Review

3.3. A Kaiapoi Wastewater Treatment Plant – Midge Control Plan was prepared by CH2M Beca in December 2017 (see TRIM 180307023727). The report recommended the usage of insecticides s-methoprene, etofenprox and spinosad, as well as implementing monitoring using emergence and light traps. This plan was primarily not enacted, due to concerns of insecticide effectiveness and resistance, and cost concerns raised by the Wastewater Asset Manager at the time.

3.4. A memo with selected options for non-chemical control was presented to the Wastewater Asset Manager in November 2018 (TRIM181123138028), which proposed modifications to private houses, vegetation screening, and creating deliberate flyways among other options. Modifications to private houses, such as decreasing or screening night-time lighting, is only possible with the cooperation of the private landowners, however is potentially a cost-effective measure.

3.5. Due to the expense, environmental concerns, and resistance of midges to repeat insecticide treatment, WDC staff have conducted a trial of a range of alternative management options in 2020-2025, namely midge larvae dredging habitat disruption which drowns midge larvae, application of a vegetable oil surfactant which can prevent midge emergence of adults from the water surface due to oil coating their wings, and Bti application (a bacterial control agent) which produces a chemical that stops the development of larvae, leading to their death.

3.6. Additional midge management techniques have been carried out for Kaiapoi and Woodend WWTPs for screening to prevent neighbouring house lights from being visible. A shade cloth fence was installed at Kaiapoi WWTP which provides some screening. Bunding and native planting has been carried out for the western side of the Woodend WWTP in 2022-4. Flood-lighting has been increased on the south side of the Kaiapoi WWTP wetlands beside the outlet pump shed as an attractant to divert midges away from the neighbours to the west.

4. ISSUES AND OPTIONS

Midge concerns by neighbours

4.1. One neighbour, on Ferry Road opposite the western side of the Kaiapoi Wastewater Treatment Plant, has contacted WDC multiple times, since purchasing the property in 2016, to complain of high midge numbers causing nuisance issues. With the prevailing wind direction from the north-east, it is assumed that this western direction is most affected by midges from the WWTP due to being downwind.

4.2. A handful of property owners on the western side of the Woodend Wastewater Treatment Plant raised concerns about increased midge numbers over the summers of 2021-25. This increase is highly likely due to the removal of pine vegetation at the WWTP site that was shielding attractant lights of the neighbours' houses and providing shelter for the midges during wind. A bund with native planting on top was installed for screening in 2023-24. Although there is successful plant survival, this planting requires growing time in order to establish and provide screening in addition to the current bund height.

Midge management methods

Larval disruption dredging

4.3. Dredging of sediment has been successfully trialled at Mangere WWTP in Auckland, and by Christchurch City Council at Bromley WWTP. Due to a greater depth, a jet boat is used at Bromley WWTP to pull the dredge. Due to a shallower depth at Kaiapoi WWTP wetlands an excavator is used. Figures 1 and 2 show the midge dredge that is used within the wetlands at Kaiapoi WWTP to stir up the bed, resulting in drowning of the midge larvae who lose their breathing tubes.

4.4. Due to the fast lifecycle of midges in the summer months, which can be as short as two weeks, ideally dredging frequency would be every fortnight, particular with warm settled weather. Over the summer of 2024-25, dredging was carried out 13 times (10 September 2024– mid March 2025), at a cost of $3,244 (excl GST) per time, and a total cost of $42,167 (excl GST).

4.5. Midge dredging, that commenced 10 September 2024 for the season, correlates to a very slight drop in midge numbers in mid-September (Figure 3). There was also a slight increase in midge numbers after dredging stopped in mid-March 2025. WDC staff are not able to speculate what midge levels would have been observed with the yellow sticky traps if no dredging had occurred. There were midge population spikes observed in early December 2024 and early January 2025, which dredging did not prevent. Problems with assessing control versus treatment areas for the dredging has made correlation of effects difficult to assess. This issue was partially addressed by replacing midge emergence traps with on-shore yellow sticky traps monitoring at Kaiapoi WWTP in 2024-25. The spike in midge numbers in mid-December 2024 was immediately after a change in algal species dominance, (with fungal parasitism of the *Euglena* algal species) and odour issues were also noted on the 25/11/24. Lime was applied for the odour management.

4.6. Dredging has not been used for the wetlands at Woodend WWTP which has extensive wetland planting, as an area of open water is required for the excavator and dredge to be able to manoeuvre.

Figure 1: The dredge that has been designed by 3 Waters staff for use at Kaiapoi WWTP, and nicknamed the 'the Midge-buster'

Figure 2: Larval disruption dredging in action, otherwise known as 'midge-busting'

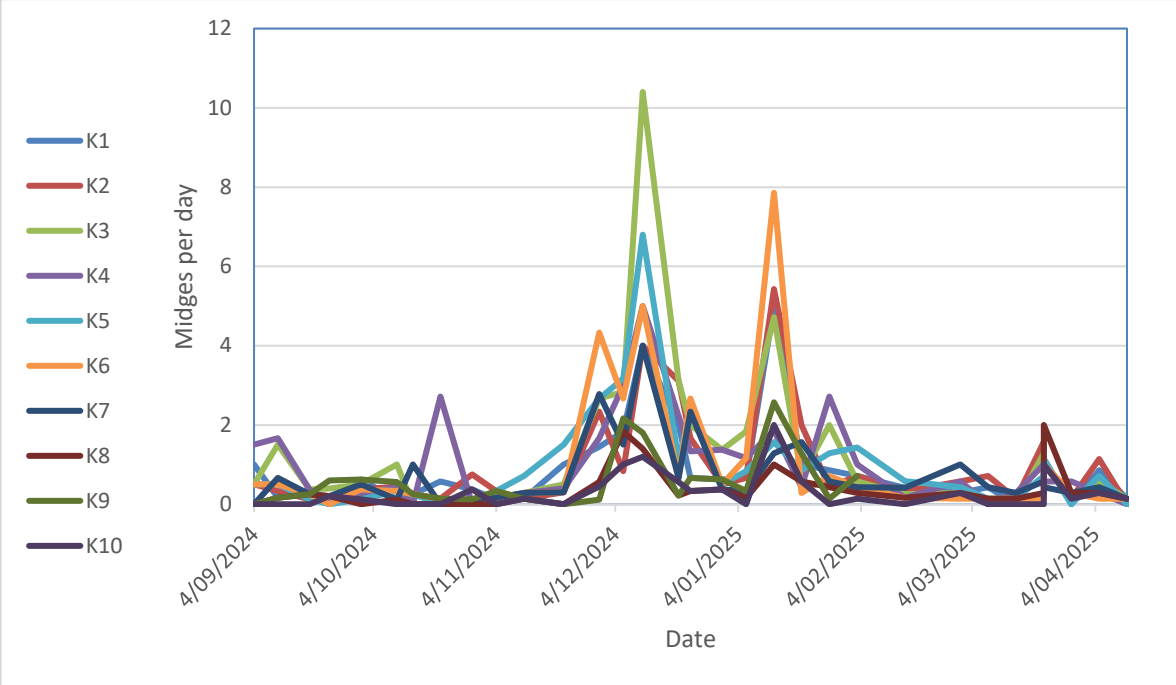


Figure 3: Midge monitoring results at Kaiapoi WWTP for 2024-25. Dredging commenced 10/09/2024 and was carried out approximately fortnightly until Mid-March 2025.

Vegetable oil surfactant spreading

4.7. A small amount of vegetable oil has been applied to the constructed wetland areas each summer 2021-25 at Woodend WWTP. The oil spreads out very thinly over the surface of the water, in theory creating a film that can prevent emerging midge adults from being able to fly by coating their wings. The cost per application (including the vegetable oil) was $378 (excl GST) in 2024-25 and was applied 30 times (from 2/9/24 to 24/3/25) at a cost of $11,328 (excl GST).

4.8. Over 2024-25, vegetable oil was applied weekly to only three of the four wetland ponds, with one pond (1a) deliberately untreated as a control pond for a trial (Figure 4). No effect of the vegetable oil treatment was visible from the monitoring results, with lower midge numbers within the control pond (Figure 5). It is recommended to review whether vegetable oil should be continued at Woodend WWTP based on these trial results. Alternatively, increased midge monitoring, such as more yellow sticky trap sites for adult counts and larval counts could be deployed, as trial results were only based on four monitoring sites (two within the control pond, and two in the treatment area, see Figure 9).

4.9. Ideally the vegetable oil needs to be applied during periods of still weather, due to the oil dispersing quickly. The oil surfactant is more suitable for use in areas with wind protection that prevent the oil being blown towards one end of the wetland, decreasing effectiveness. Therefore, oil surfactant is not recommended to be spread at Kaiapoi WWTP because the large area of the wetland receiving high wind fetch.

Figure 4: Control and treatment areas for the vegetable oil trial at Woodend WWTP. The orange areas are not sprayed as there are dense plantings with little open water midge habitat.

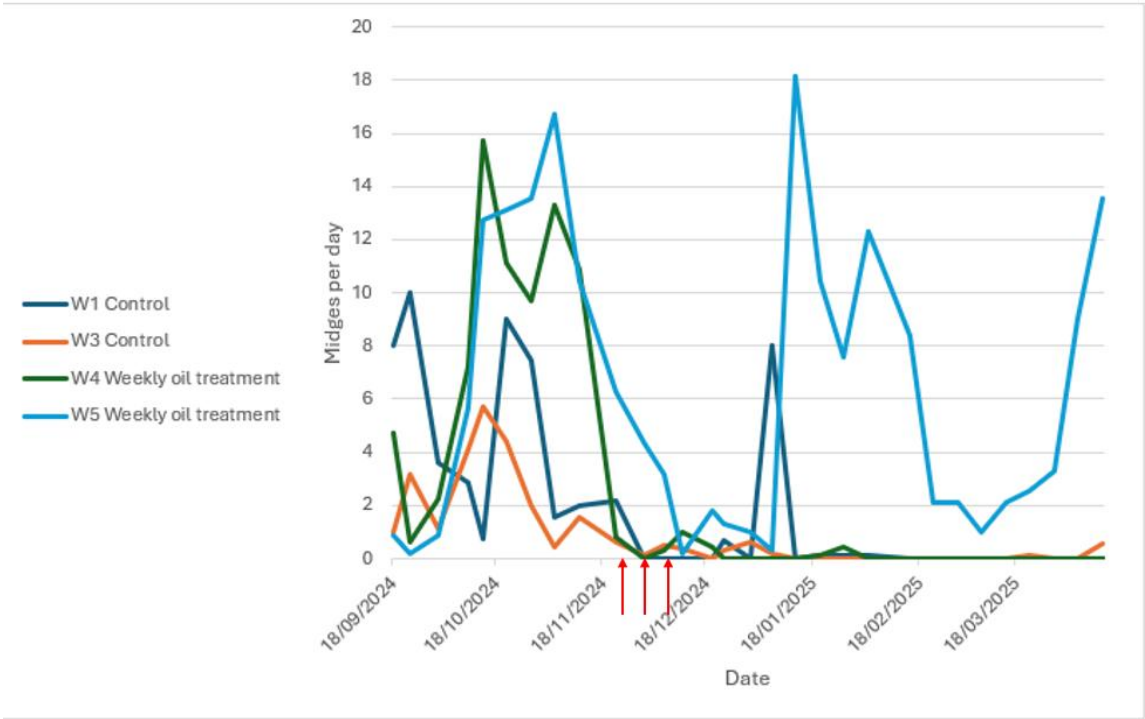


Figure 5: Emergence traps monitoring results 2024-25 for control and treatment areas for the vegetable oil trial at Woodend WWTP. Oil was applied weekly from 02/09/24 – 24/03/25. Bti was added to all ponds at the dates indicated by the red arrows (22/11/24, 29/11/24 and 7/12/24).

Bacillus thuringiensis serotype *israelensis* (Bti)

4.10. Bti is very specific for mosquitoes and black flies, and has some toxicity toward certain other dipterans, including midges. Bti is commonly used for mosquito control because of its low toxicity to non-target species. Bti bacteria produce a protein crystal that restricts larvae development from entering the pupa and adult life stages.

4.11. Bti was trialled for the first time by WDC in 2023-24 at the Woodend WWTP, where there was a large drop in midge numbers following application, however the control pond also had a similar decrease. Bti was trialled in response to nuisance complaints about the midge numbers from neighbours, despite application of weekly vegetable oil surfactant. In 2024-25, all of the constructed wetlands at Woodend WWTP were applied with the recommended dosage by drone on the 22/11/24, 29/11/24 and 7/12/24. A drop in midge numbers was seen immediately prior to application of the Bti, commencing about the 12/11/24 (see Figure 5), therefore Bti may not be the cause of this drop.

4.12. An alternative theory regarding large drops in midge numbers that have been observed in November- December 2023-24 and 2024-25 is due to variance in the algal population, which is a food source for the midge larvae. Algal sampling results for 2024-25 (by Hydrobio Ltd on behalf of WDC) show a large shift in dominant algal species and decrease in the total algal population on 12 and 26 November 2024, with fungal parasitism also affecting the population. Other factors to examine as drivers for large drops in midge numbers could be ammonia or oxygen levels (i.e. Biological Oxygen Demand test results), which are planned to be examined by WDC staff for any trends associated with midge numbers.

Vegetation screening and bunding

4.13. Kaiapoi WWTP is proposed to have pine trees along the western boundary next to the infiltration wetland harvested in 2025-26 due to the pines being mature to harvest, and health and safety risks from older pines during high wind events. This strip of pines will be replanted with natives that will provide screening, and an opportunity to be used for spraying of contact insecticide if desired as a future control method. A strip of pines will remain alongside Ferry Road to provide some screening until native plants have had at least five years to grow and provide screening to the residential properties to the west.

4.14. Native vegetation screening and bunding at Woodend WWTP has been installed on the western boundary 2022-24 following the removal of pines trees for harvesting in 2021 (see Figure 6). The removal of the pines led to an increase in complaints from neighbours about an increase in midge numbers around their houses. Natives have been selected as suitable for the sandy soils, provide light screening and a surface for contact insecticide to be applied if further control of midges is needed, and are available in bulk at restoration grade pricing from nurseries.

Figure 6: Woodend WWTP bund and planting for midge screening, as viewed in May 2025

4.15. The WDC Property Team has overseen the planting of a 10-metre-wide strip of low-flammable natives to provide screening of users of a recreational track from the neighbouring properties on Gladstone Road. This track screening will provide some screening of light from the neighbouring houses to prevent the attraction of midges. The initial planting and subsequent infill planting struggled to establish, potentially due to frost damage and other difficult soil and environmental conditions at the site, such as low organic matter, and an acidic soil, leading to potential aluminium toxicity and less drought resistance for the plants. Soil enrichment to raise carbon levels is being considered to rectify this issue.

Midge Monitoring Methodology

4.16. Feedback and complaints have been received by neighbours to the west of both the Kaiapoi and Woodend WWTPs. This information is very useful to assess when midges are causing issues, and also whether treatments have potentially reduced midge populations. Feedback has been generally positive for the larval disruption dredging, however the oil surfactant spreading treatment alone did not provide adequate control in 2023-24, hence Bti was trialled in addition to vegetable oil application in November-December 2023, and also applied in 2024-25, with positive neighbour feedback received afterwards, but maybe have been related to a natural drop in midge numbers, rather than due to the Bti. From 2024-25 onwards, any complaints are to be lodged formally as Service Requests (not just via email or phone call), as this simplifies the complaints compilation process.

4.17. Four midge emergence traps (see Figures 7 and 9) were deployed in Woodend WWTP over 24-25 to capture midges as the transform from larvae in the sediment to flying adults. A sticky paper collects the emerged adults at the top of the trap and allows for a density count of how many midges are emerging over time. It is assumed, due to the short lifespan of the adults (of a maximum of 5 days), that midge trap numbers can be used to indicate the density of the adult population.

4.18. In 2024-25, ten yellow sticky paper traps replaced emergence traps at Kaiapoi WWTP that were directly placed parallel to the shoreline, attached to posts (Figures 8 and 10).

Emergence traps have been hard to find replacement parts for and are harder to access than the yellow sticky paper traps place directly on the shoreline. The yellow sticky traps however only give an indication of what is emerging directly from the WWTP wetlands, with other water sources possible too, and results are also more likely to be affected by variation in wind direction.

4.19. Yellow sticky traps more accurately indicate the level of adults midges emerging from the infiltration wetland at Kaiapoi WWTP as a whole than the previous midge emergence traps, but neither trap type is able to provide a control versus treatment analysis for the midge dredging. In the future, WDC will be able to compare total midge population numbers from year to year with the yellow sticky traps with some standardisation of data first.

Figure 7: A midge emergence trap used at Woodend WWTP in 2024-25

Figure 8: A yellow sticky trap, used at Kaiapoi WWTP in 2024-25

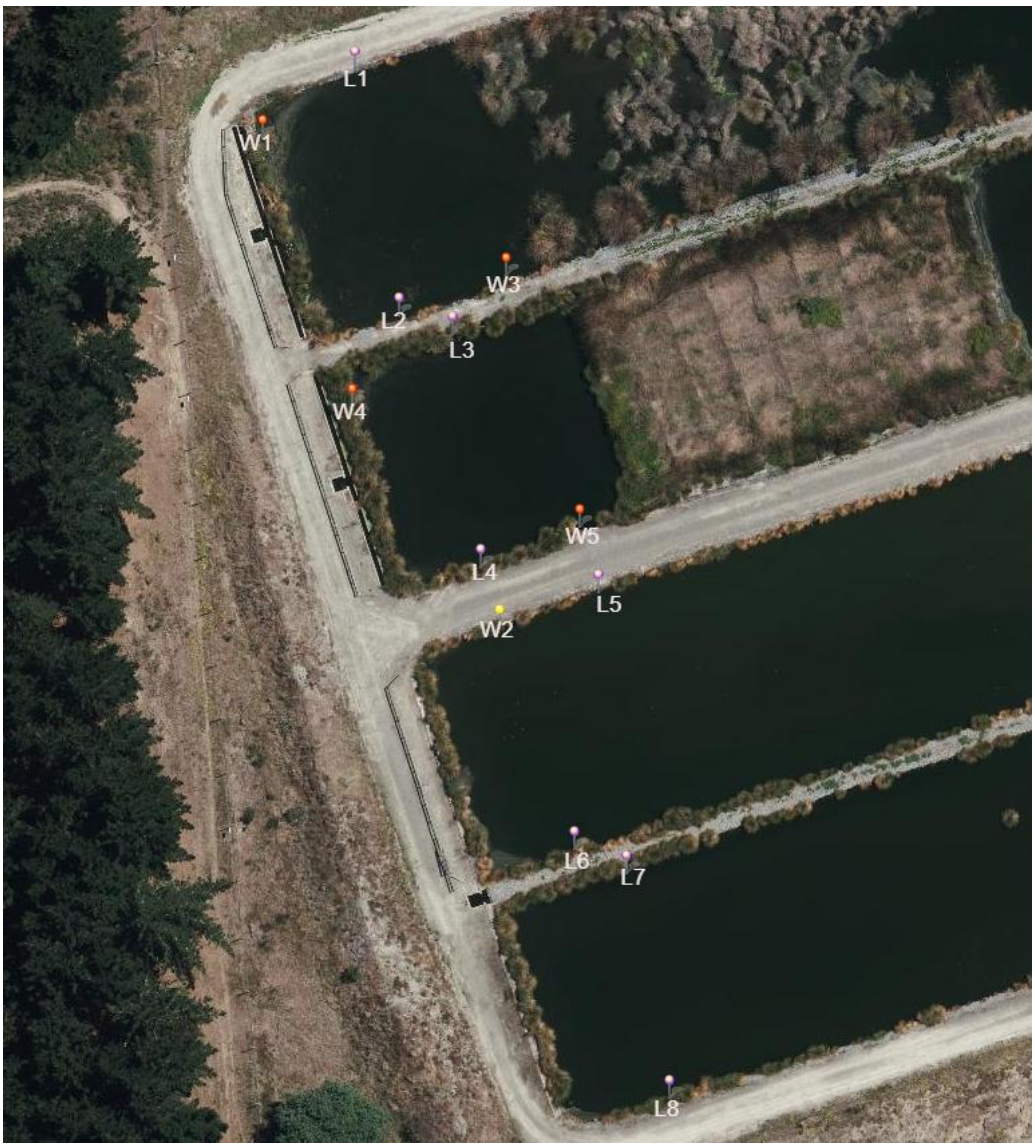


Figure 9: Midge emergence trap locations (W1,3,4 and 5) Wastewater Treatment Plant during the summer and autumn of 2024-25. Trap W2 has been retired, and the larval monitoring sites L1-L8 were not monitored in 2024-25.

Figure 10: Yellow sticky trap locations of the ten traps at Kaiapoi Wastewater Treatment Plant 2024-25.

Future midge management

4.20. A summary of the key improvements to the future midge monitoring and management for 2025-26 and beyond is provided in Table 1.

Table 1: Future midge monitoring and management improvements

Site	Improvement
Woodend WWTP and potentially Kaiapoi WWTP	Baseline larvae survey in spring 2025 to identify areas of high midge population to target management– recommended for 2024-25 but not carried out
Woodend & Kaiapoi WWTP	Refine trigger levels of when treatment methods should commence based on monitoring results (i.e. before complaints are received from neighbours)
Woodend & Kaiapoi WWTP	Investigate other potential environmental drivers for spikes and drops in midge numbers, such as possibly algal population, ammonia and oxygen levels.

Implications for Community Wellbeing

4.21. There are implications on community wellbeing by the issues and options that are the subject matter of this report, particularly for the localised neighbours to the western side of each WWTP.

4.22. The Management Team has reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Mana whenua

5.1.1. Te Ngāi Tūāhuriri hapū are likely to be affected by, or have an interest in the subject matter of this report, such as midge management treatments that are used

and in particular any environmental benefits or costs of the management treatment on the wider ecosystem.

5.2. Groups and Organisations

5.2.1. There are localised neighbours to the Kaiapoi and Woodend wastewater treatment plants that are affected by and have an interest in the subject matter of this report. The Woodend neighbours of the WWTP have created a consultation group with Water Services staff regarding wider WWTP consultation, which includes on-going discussion of midge management.

5.3. Wider Community

5.3.1. The wider community is not likely to be affected by, or to have an interest in the subject matter of this report.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. **Financial Implications**

6.1.1. There are no financial implications of the decisions sought by this report. Midge management is covered by existing operational budgets for the WWTPs. A midge management budget is already provided for in the Annual Plan for 2025-26.

6.2. **Sustainability and Climate Change Impacts**

6.2.1. The recommendations in this report do have sustainability and/or climate change impacts. It is important to consider the environmental effects of on-going midge management measures, such as what effect midge management has on the discharge quality via the EDSS Ocean Outfall to Pegasus Bay.

6.3 **Risk Management**

6.2.2. There are risks arising from the adoption/implementation of the recommendations in this report that midge management will not result in sufficient midge number reductions for neighbours. Midge management is likely to be an on-going issue to manage.

6.3 **Health and Safety**

6.2.3. There are no new specific health and safety risks arising from the implementation of the recommendations in this report. Contractors are required to access the wastewater treatment plant wetlands, which contain treated effluent. Therefore, contractor site induction and other specific health and safety measures appropriate to the hazards present are carried out.

7. CONTEXT

7.1. Consistency with Policy

7.1.1. This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. Authorising Legislation

7.2.1. There are requirements for insect control under consent issued under the Resource Management Act (1991).

7.3. Consistency with Community Outcomes

7.3.1. The Council's community outcomes are / are not relevant to the actions arising from recommendations in this report.

7.4. Authorising Delegations

7.4.1. This report is for information only. No delegations apply.

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR INFORMATION

FILE NO and TRIM NO:	DRA-14 / 251023201716
REPORT TO:	UTILITIES AND ROADING COMMITTEE
DATE OF MEETING:	25 November 2025 (Utilities and Roading Committee)
AUTHOR(S):	Sophie Allen – Water Environment Advisor
SUBJECT:	Herbicide update and usage by Council and contractors in 2024-25
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report summarises herbicide usage by the Council and its contractors in 2024-25 for public areas and/or areas that are beside waterways and compares to data from 2023-24. This scope includes areas in the work programmes for maintaining rural drainage, stockwater races, green spaces such as parks, stormwater management areas, and the road reserve (including roadside drains).

1.2. Council herbicide usage and recommendations for improvements are reported annually to the Utilities and Roading Committee and the Community and Recreation Committee. This report is the second in a standardised annual report format. This annual reporting also reviewed important updates in relevant herbicide research, as well as reassessments and approvals of herbicide and their additives under the Environmental Protection Authority (EPA).

1.3. Various Waimakariri community members have raised concerns regarding the safety of herbicides to human health and ecosystems, particularly regarding possible effects on aquatic environments.

1.4. Herbicide usage is minimised by Council where possible, with other methods such as mechanical cleaning used. Herbicides for Council operations are only used as approved by the EPA and where deemed necessary by Council staff and contractors. Operating procedures are in place to ensure best practice and label instructions for herbicides and their additives are followed.

1.5. The EPA decided in July 2024 that there was not sufficient evidence to require a review of the herbicide glyphosate in New Zealand (www.epa.govt.nz). None of the herbicides, as used by Council, are under current reassessment by the EPA. Some herbicides when used in aquatic environments are under reassessment by the EPA, such as triclopyr, haloxyfop and diquat, however the Council does not use these herbicides in aquatic environments.

1.6. The EPA has stated they plan to carry out a review of polyoxyethylene amine (POEA) surfactants commonly used with herbicides, due to claims that these surfactants should be restricted, however have not stated a date. Alternative surfactants to POEA have some limited availability in New Zealand, such as found in the glyphosate product Grunt® 600 from Donaghys Ltd. Council staff will monitor and address the review findings from the EPA when published.

1.7. This year WDC staff specifically reviewed the use of additives to glyphosate when applied as a spray, for uses such as a penetrant, anti-spray drift and to reduce the rain-fast time, with further work needed before confirming any guidance to the Council and its contractors.

1.8. A frequently asked questions (FAQ) section about herbicides has been added onto the WDC website. The Herbicide Spray Management Plan for WDC consent CRC120402 for spraying plants in drains and stockwater races is being reviewed and updated to best practice. A WDC 'No Spray Register' form will soon be publicly advertised on the WDC website as an option for berms.

2. RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 251023201716.

(b) **Notes** that herbicide use is minimised where possible for Council operations and only used where deemed necessary by Council staff and contractors. Other (i.e. mechanical) weed control options are used where they are deemed more appropriate.

(c) **Notes** the herbicides and their use are as approved by the Environmental Protection Authority (EPA), however spray additives are usually not required to be approved by the EPA.

(d) **Notes** the following report contains actions for WDC staff to; monitor the Environmental Protection Authority for relevant reassessments, reviews or approval changes; monitor for updates to relevant peer-reviewed research; provide guidance to contractors on spray additives; extend the scope of the WDC Roading 'No Spray' register; and require relevant contractors to be Growsafe Registered Chemical Applicators.

(e) **Notes** that spraying over water by Council and its contractors is very limited, with a preference for mechanical maintenance for rural drains and stockwater races. If spraying near or over water is carried out (with a risk of discharge of contaminants to the waterway), it is following consent CRC120402 and Glyphosate 360 is applied for this. No diquat has been used by the Council in 2024-25, although permitted by CRC120402.

(f) **Notes** that the budgets in the Long Term Plan 2024-34 have been based on continuing to use herbicides, including glyphosate, for weed control, where deemed necessary by Council staff and contractors.

(g) **Notes** that the EPA decided not to review the herbicide glyphosate in 2024, as there was insufficient evidence that an update was required from the previous review conducted in 2016. A challenge by the appellant, the Environmental Law Initiative (ELI) to this decision was unsuccessful in the High Court in October 2025.

(h) **Notes** that there is a planned review by the EPA of polyoxyethylene amine (POEA) surfactants commonly used with herbicides, due to claims that these surfactants should be restricted, however no date for this review has been announced.

(i) **Circulates** this report to Community Boards, and Drainage Advisory Groups.

3. BACKGROUND

3.1. Waimakariri District Council has received increasing concerns in recent years from the community regarding herbicides practices and the potential impact of herbicides on waterways within the Waimakariri District. In 2024, multiple residents have raised concerns that herbicide usage could have caused dieback of weedbeds in the Ruataniwha Cam River and Kaiapoi River.

3.2. Use of herbicides in public areas and beside waterways are the areas that community members have primarily raised for their concerns, therefore are the scope of this annual reporting. Herbicide usage by WDC in other areas is thought to be minimal and *ad hoc*,

making it difficult to track, therefore is out of scope of this annual reporting. This annual reporting provides clarity to community members about WDC herbicide practices as well as provide potential improvement recommendations.

3.3. Due to community concerns, WDC has minimised spraying aquatic vegetation such as watercress and monkey musk, preferring to use primarily mechanical methods to manage excess weed growth in drains with baseflow. Spraying herbicide into dry drain inverts and woody weed pest species on adjacent riparian banks has continued as the preferred control option.

3.4. WDC has prepared previous reports regarding herbicide usage. A report in 2018 conducted a review of the use of glyphosate by WDC and examined alternative options. A report in 2019 also looked at glyphosate, and recommendations for improvement to practices. A report in 2022 provided an update on spraying practices, herbicide brands and volumes used by WDC and its contractors. The first annual report in a standardised format was published for herbicide usage during 2023-24.

4. ISSUES AND OPTIONS

Annual reporting

4.1. Herbicide data that are reported for each financial year include:

4.1.1. Council operations and contracts that include the application of herbicides in public spaces and/or next to waterways;

4.1.2. Brands of herbicide used;

4.1.3. Brands of additives used;

4.1.4. Volumes of herbicide used; and

4.1.5. A short general statement on locations where herbicides are used (riparian margins, dry drains, public parks etc), types of application, and summary of target species for the herbicide.

4.2. Data are also collated in a spreadsheet for comparison between years.

EPA and international reviews

4.3. All herbicides and additives reported as used by WDC and its contractors in 2024-25 are approved for their use by the EPA. Synthetic pyrethroids, occasionally used by contractors as insecticides in public places, are under active assessment by the EPA as they are on the priority chemical list (noting that insecticides are outside of the scope of this report). Oxadiazon is a weedkiller under reassessment, however is not currently used by Council or its contractors.

4.4. Grounds have been established by EPA to reassess substances used as aquatic herbicides, namely:

4.4.1. Endothall dipotassium salt

4.4.2. Diquat dibromide

4.4.3. Metsulfuron-methyl

4.4.4. Haloxyfop-R-methyl

4.4.5. Imazapyr isopropylamine

4.4.6. Triclopyr triethylamine

4.5. Triclopyr (such as in Grazon and Tordon Pastureboss) and haloxyfop (in Gallant) are used in various forms for terrestrial use by WDC and its contractors, however the EPA is not reviewing terrestrial use of these herbicides. Diquat is approved for use under consent

CRC120402 for weed control in stockwater races and rural drains, however WDC does not currently use Diquat despite this approval.

4.6. Glyphosate is a common herbicide used by Council and its contractors. The EPA concluded in their 2016 review that glyphosate-based products are not likely to cause harm if users follow the label instructions with appropriate usage.

4.7. The EPA decided in July 2024 that there was not sufficient evidence to require a new review on its use in New Zealand, with the last review of 2016 still standing. This decision was challenged by the Environmental Law Initiative (ELI). However, the High Court ruled in favour of the EPA in the High Court in October 2025.

4.8. There is international debate on the human health effects of glyphosate. In 2015, the IARC (International Agency for Research on Cancer) classified glyphosate and its derivatives in Group 2A, as probable human carcinogens. In 2022, the European Food Safety Authority stated that the available data did not provide sufficient evidence to prove the mutagenic/carcinogenic effects of glyphosate. Therefore, the European Commission decided to renew the approval of glyphosate use for another 10 years.

4.9. Before the EPA approves a substance (such as glyphosate), they assess potential impacts on human health and the environment and weigh up its risks and benefits. They use the latest scientific data, including research and decisions made by overseas regulators. If the substance is approved, rules are put in place to reduce risks, such as how to label, package up and dispose of the substance, and there may be restrictions on who can use it. The EPA considers that the existing rules for using glyphosate and glyphosate-containing products are sufficient to manage any potential risks to human health and the environment.

4.10. EPA has stated that they plan to undertake a review into a non-ionic surfactant called polyoxyethylene amine (POEA) that is often added to glyphosate products, however no review date has been announced. POEA has hazardous properties and can be toxic to aquatic organisms. There is only a limited range of glyphosate products available in New Zealand without POEA. WDC staff intend to monitor the EPA review of POEA for any changes to approved uses of the surfactant.

Rural drainage

4.11. Rural drainage works were carried out under contract CON2019/43. Predominantly rural drainage works are carried out via mechanical methods, such as using an excavator with a root rake bucket. For herbicide usage, the rural drainage contractor adheres to the WDC Drainage Maintenance Management Plan (2020) and a Standard Operating Procedure (SOP) for spray drift.

4.12. Herbicides that were reported to be used for rural drain maintenance in 2024-25 were for grass and woody weed control for 8.4km of dry drains near Oxford and a section of Kaikanui stream margins (along the SH1 motorway) using glyphosate with Pulse penetrant (an organosilicone). Some Tordon Brushkiller for woody weeds and blackberry was used for Mill Road – Oxford and Carleton/Ashley Drain. Total volumes were similar to usage reported in 2023-24:

Agrichemical:	**Volume in 2023-24:**	**Volume in 2024-25:**
Agpro Glyphosate 510	18.8 Litres estimated	18.8 Litres estimated
Pulse (penetrant additive to herbicide)	1 Litre estimated	1 Litre estimated

Tordon Brushkiller XT – (active ingredients aminopyralid and picloram)	0.3 Litres estimated	0.3 Litres estimated

4.13. In the year 2024-25, the 8.4 km of dry drains sprayed near Oxford were:

- Oxford Road – section west of Barracks Road (1260m)
- Barracks Road (500m)
- Powells Road (870m)
- Mill Road – Oxford. Spraying of gorse and broom along margin (1330m)
- Bush Road – Crallans Drain (847m)
- Mounseys Road (360m)
- Carleton/Ashley Drain. Spraying of gorse and broom along margin (1310m)
- Bennetts Diversion (1930m)

4.14. Any spraying of emergent weeds within a waterway, if carried out, would be according to the consent conditions of CRC120402 and the Herbicide Spray Management Plan however no such spraying was carried out in the period 2024-25.

4.15. Section 7.3 of the WDC Drainage Maintenance Management Plan (2020) covers herbicide usage and Council approach for staff discretion to select the most appropriate management option, whilst minimising the usage if herbicide where possible. The DMMP also details best practice if herbicide is used, a summary of the EPA review for glyphosate, and its potential impacts on the environment.

Stockwater races

4.16. Stockwater race maintenance is contracted out by WDC. Private landowners also carry out maintenance on sections of the races. A 'No Spray' register option is maintained by the Council stockwater contractor for landowners to request no herbicide spraying is undertaken on stockwater races within or adjacent to their property.

4.17. The contractor is a registered chemical applicator with specific training requirements, and occasionally use a subcontractor who is also a registered chemical applicator. They have a Standard Operating Procedure that they follow.

4.18. The contractor uses herbicide to control grasses and woody weeds such as gorse and broom. Emergent weeds, such as watercress and monkey musk are usually maintained via mechanical removal. Herbicide spray over the stockwater races for emergent weed control is used only in places where there is lack of access for an excavator (or other access issue) and is carried out following consent CRC120402 conditions and the Herbicide Spray Management Plan.

4.19. Total volumes used for stockwater race maintenance in 2024-25 were a slight increase to 2023-24 volumes:

Agrichemical:	**Volume in 2023-24:**	**Volume in 2024-25:**
Glyphosate Green 510	160 Litres	180 Litres

Pulse penetrant (an organo-silicone surfactant added to herbicide)	16 Litres estimated	18 Litres estimated
Tordon Brushkiller – (active ingredients aminopyralid and picloram)	A limited amount	A limited amount

Parks, reserves and stormwater management areas

4.20. WDC maintains urban green space maintenance, such as parks and reserves, and also carries out maintenance for stormwater management areas under contract CON2016/51. The herbicides and volumes used for weed management in 2024-25 under this contract were:

Agrichemical:	**Volume in 2023-24:**	**Volume in 2024-25:**
Rainbow and Brown Glyphosate 360	407 Litres	410 Litres
Wet and Forget -active ingredient of alkyl dimethyl benzyl ammonium chloride	15 Litres	10 Litres
Agpro Brushkiller - active ingredients of triclopyr and picloram	46 Litres	2 Litres
Picloram gel (for cut and paste work)	3.220 Kg	1.860 Kg

4.21. The contractor has ceased the use of the Agpro spray maximiser (penetrant additive to herbicides used in 2023-24), as it was found to not be required for effectiveness, with no penetrant used in 2024-25.

4.22. Without the use of a penetrant in 2024-25, the time for glyphosate to become rain-fast is longer, i.e. several hours, rather than 30 minutes, which the contractor manages with carefully weather watching. The use of a penetrant to reduce the rain-fast time is being considered by the contractor, however some penetrants have potential negative environmental impacts, which needs careful consideration. The contractor is also considering the use of spray-drift reducing nozzles with air induction.

4.23. Target species are annual grasses, broadleaf weeds, annual weeds, cleavers, dock, blackberry, gorse, old man’s beard, moss and mould. The contractor uses chemicals sparingly, mainly spot spraying by knapsack. Areas near waterways have seen mechanical and digger weed removal along with weed eating during 2024-25 to minimise chemical usage. The contractor does not spray in water or over waterways.

4.24. The contractor has SOP documentation for 'Handling and Storage' and 'Weed Spraying'. Their staff that apply chemicals have been through the Grow Safe training course and have certification. The contractor uses digital chemical diaries and have an app which has direct access to safety data sheets and hazard identification forms. The bulk of weed spraying is spot-spraying predominantly around garden beds. Wherever possible the contractor heavily mulches gardens to reduce chemical use.

4.25. Although the scope of reporting is limited to herbicide usage, it is of note that the contractor reported the use of 0.8 Litres of Yates Super Shield Rose Spray, which contains an insecticide called Tau fluvalinate, a synthetic pyrethroid. Synthetic pyrethroids are under reassessment by the EPA currently. The outcome of this reassessment is recommended to be considered by the Council for future insecticide usage.

Ecological restoration work

4.26. The Greenspace ranger is a contractor to WDC. Herbicides are applied responsibly by a qualified and experienced professional. Applications are site-specific and carefully timed to effectively manage invasive pest plants. Herbicides also support site preparation and maintenance during early establishment of native plant revegetation projects. The ranger does not apply herbicides or other sprays over waterways.

4.27. Methods of application have included knapsack spraying, drilling and filling of tree trunks, and cut and pasting of stumps. Target plants have included annual and perennial grasses, annual and perennial broadleaf species, invasive climbers and vines, and shrubs and trees.

4.28. The volumes and products used in 2024-25 by the Greenspace ranger increased from 2023-24 due to project-specific requirements:

Agrichemical:	**Volume in 2023-24:**	**Volume in 2024-25:**
Orion Deal 360 and Nufarm Weedmaster G360 - glyphosate as the active ingredient	35 Litres	38.1 Litres
Corteva Grazon - triclopyr as the active ingredient	1 Litre	24.3 Litres
Nufarm Pulse Penetrant – organosilicone additive to herbicides	1 Litre	7.4 Litres
Envirodye blue marking dye	0.7 Litres	3 Litres
Kiwicare Weed Weapon Stump Stop	Not used	2.6 Litres
Nufarm Associate 600 WDG - active ingredient of Metsulfuron-methyl	Not used	250 grams
Corteva Gallant Ultra - active ingredients Haloxyfop-P methyl ester and Haloxyfop	Not used	0.65 Litres
X-tree Basal Wet and Dry	Not used	3.8 Litres
Corteva Uptake Spraying Oil - no active ingredient	Not used	2 Litres
Cut n Paste Glimax Professional Weed Gel -	Not used	1.5 Kg

active ingredient glyphosate		

Road reserves – including roadside drains

4.29. Roading spray operations carried out under contract CON2019/43 relate to urban kerb and channel spraying, rural spraying around street furniture (signs, poles, edge marker posts, etc), around culvert ends and occasionally road drains. Overgrown vegetation that poses a roading safety risk (blind spots etc) at intersections and/or bridges is also sprayed.

4.30. The Waimakariri District Council roading contractor, provided quantities of chemical spraying undertaken in litres used in 2024-25 for roading purposes under CON2019/43. The types and amount of herbicide and additives used were:

Agrichemical:	**Volume in 2023-24:**	**Volume in 2024-25:**
Lion 490 DST - glyphosate as the active ingredient	188.75L	209.1 Litres
Tordon PastureBoss- active ingredients triclopyr and aminopyralid	81.52L	63.75 Litres
Li -1000 – a lecithin anti-spray drift and penetrant additive	33.28L	33.94 Litres

4.31. Herbicide is only used when deemed necessary by the Roading Team. Landowners are encouraged to not use herbicide on the banks of roadside drains and swales. An anti-drift additive (Li-1000) is added to council roading chemical sprays to ensure minimal spray drift when applied. Spray is usually applied with the spray nozzle close to the ground to also help reduce drift. This product also works as a penetrant for the herbicide and decreases rain-fast time to 30 minutes. The product is lecithin-based, which is considered safe for humans as a food-additive.

4.32. The Waimakariri District Council continually adds to a ‘No Spray’ register for roadside berms, which members of the public can opt in to have their berm frontages added to. The ‘No Spray’ register is now advertised on the WDC website as an option for ratepayers, with an online form planned to be added shortly. The register holds private information and therefore it not available to the public.

Specific recommendations for improvement to WDC practices

4.33. The following actions are proposed to be undertaken to improve WDC herbicide practices:

- Action 1: Monitor the Environmental Protection Authority for relevant reassessments, reviews or approval changes of herbicides, insecticides (such as the synthetic pyrethroids) and common additives used. Specifically analyse the proposed EPA review of POEA surfactants used with herbicides when published for recommended actions.
- Action 2: That WDC staff provide guidance to contractors on the suitable use of anti-spray drift, penetrant and rain-fast additives when spraying herbicides regarding spray effectiveness and minimising environmental effects.
- Action 3: Monitor and review updates to relevant peer-reviewed research on health and environmental effects of herbicides and common additives that WDC uses.

- Action 4: Extend the scope of the WDC Roading 'No Spray' register to possibly include other areas that border private property such as Council reserves and stormwater management areas, if appropriate alternative management is agreed by the private property owner. Potentially incorporate the 'No Spray' register information maintained by the contractor for the stockwater races.
- Action 5: Require that the minimum level of qualification of a contractor to carry out spraying within 30m or less from water or a sensitive habitat, or in/onto water is a Growsafe Registered Chemical Applicator (with an Aquatic strand or equivalent for use within water).

Implications for Community Wellbeing

4.34. There are implications on community wellbeing by the issues and options that are the subject matter of this report. Herbicide usage can provide effective and economical control of weed species. However herbicides and their additives should be regularly monitored for updates on potential effects on human health and ecosystems.

4.35. The Management Team has reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū are likely to be affected by, or have an interest in the subject matter of this report because of potential effects such as weakened mauri of ecosystems, and for the gathering of mahinga kai. A copy of this will be presented at an up-coming monthly WDC- Rūnanga meeting.

5.2. Groups and Organisations

There are groups and organisations likely to be affected by, or to have an interest in the subject matter of this report, such as rivercare groups.

5.3. Wider Community

The wider community is likely to be affected by, or to have an interest in the subject matter of this report.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

There are no financial implications of the decisions sought by this report. This report is for information only.

Budgets included in the Annual Plan/Long Term Plan are based on the continuation of a limited use of herbicides for weed control.

6.2. Sustainability and Climate Change Impacts

The recommendations in this report do have sustainability and/or climate change impacts. Improvements in the usage of herbicides could have benefits for sustainability, such as for human health and for aquatic and terrestrial ecosystems.

6.3 Risk Management

There are no risks arising from the adoption/implementation of the recommendations in this report.

6.3 Health and Safety

There are potential health and safety opportunities arising from the adoption/implementation of the recommendations in this report, such as a reduced risk to human health from POEA surfactants if these are recommended to be phased out of usage by the EPA.

7. CONTEXT

7.1. Consistency with Policy

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. Authorising Legislation

7.3. Consistency with Community Outcomes

The Council's community outcomes are relevant to the actions arising from recommendations in this report.

7.4. Authorising Delegations

No delegations apply as this report is for information only.

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	CMS-06-03 / 250326051559
REPORT TO:	RANGIORA-ASHLEY COMMUNITY BOARD
DATE OF MEETING:	12 November 2025
AUTHOR(S):	Peter Daly, Road Safety Coordinator / Journey Planner Joanne McBride, Roading and Transport Manager
SUBJECT:	Request for approval to establish a School Patrol and Kea Crossing on Townsend Road at Te Matauru School
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report seeks a Community Board recommendation to the Utilities and Roading Committee for the approval to establish a School Patrol and Kea Crossing on Townsend Road, outside of Te Matauru Primary School.

1.2. The matter arises from a letter of request from the Board of Trustees of Te Matauru Primary School requesting a Kea Crossing.

1.3. Kea crossings provide children with a safe place to cross the road. School patrols can then control traffic and safely guide children across the street.

1.4. The Kea crossing would only operate when the school patrol and required crossing signs are in place, generally before and after school. When the school patrol displays their STOP signs, traffic must stop. When there is no school patrol and no crossing signs, the road operates normally.

1.5. NZTA Guidance recommends that school patrols should be considered whenever vehicle flows at before and after school times would make it difficult for school traffic wardens to find safe gaps in the traffic. The average daily traffic on weekdays in this section of road is 5946 vehicles per day.

1.6. There is no specific number of children wishing to cross that justifies a school patrol, but as the patrols require a significant commitment of effort, alternative ways of assisting children across the road may be considered when there are fewer than 20 children per hour, for example the use of school wardens.

1.7. If there is likely to be infrequent pedestrian use outside school times, then a kea crossing should be considered instead.

1.8. The proposed Kea Crossing would contribute to the safer arrival and departure of students to the rear of the school and cater for the current and future population within the school zone.

Attachments:

i. Request letter from the Te Matauru Board of Trustees. (Trim 250327053100)
ii. Scheme Design (Trim 250327053094)

2. RECOMMENDATION

THAT the Rangiora-Ashley Community Board:

(a) **Receives** Report No. 250326051559.

AND

THAT the Rangiora-Ashley Community Board recommends:

THAT the Utilities and Roading Committee:

(b) **Approves** the establishment of a School Patrol and Kea Crossing on Townsend Road at the existing crossing point, which is located between the western pedestrian gates of Te Matauru Primary School.

(c) **Notes** that budget has previously been approved for this project as part of the Minor Safety Programme (School Safety Projects PJ 102717.000.5133).

3. BACKGROUND

3.1. A significant proportion of the growing Te Matauru Primary School population lives in the school zone area to the north and west of the school. The school zone is shown below in Figure 1.

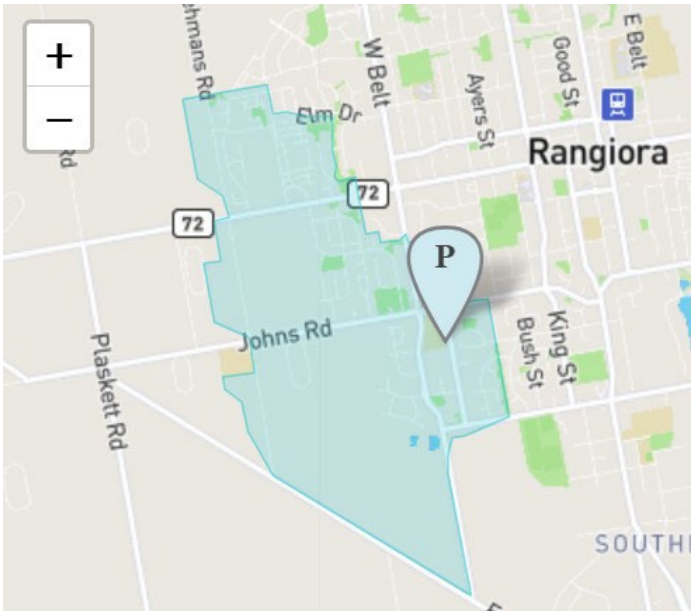


Figure 1 – Te Matauru School Zone

3.2. As a result, a significant proportion of the school student population enters and exits the school via the gates which exit onto Townsend Road. From there the majority of students continue north, crossing Johns Road at the West Belt roundabout, however as further development occurs, this will also increase to the west.

3.3. In 2022 Council installed a pedestrian refuge at the crossing point adjacent to the gates as shown in Figure 2, to reduce the crossing risk as it was at that stage. The refuge was installed such that it could be easily upgraded to a kea crossing in the future, should the need arise.

Figure 2 – Townsend Road Crossing Point.

3.4. The traffic volume and speed on Townsend Road at the existing crossing point was surveyed between 18 March 2025 and 25 March 2025. This is the first such survey at this site. There are no historical figures available for comparison. The average daily traffic on weekdays in this section of road is 5946 vehicles per day (vpd), with an average speed of 45.7 km/h. NZTA Guidance states that School patrols may not be needed below 500 vehicles per hour in roads with appropriate widths.

3.5. Pedestrian counts conducted at the existing crossing point found that between 30 and 50 children use that crossing point each morning / afternoon. This number will increase as Rangiora continues to grow with further development to the west, which is within the school zone area.

3.6. The current school role, as of November 2024, was 240 children. The school is planned to develop in two stages. Stage One (complete) caters for up to 350 students, with Stage Two (not yet undertaken) increasing capacity to be able to cater for up to 700 students. The school provides for Years 1 to 8.

3.7. A kea crossing is one which is in place during periods of high pedestrian demand, specifically in relation to schools being that period before and after school, when children are arriving in larger numbers, or leaving in larger numbers.

3.8. Outside of peak pedestrian time, the crossing reverts to what is in place in the absence of the school patrol. In the case of Townsend Road, this would be splitter islands with no pedestrian priority.

3.9. The school population is growing in line with the growth of the residential development in the north-west sector of Rangiora. Traffic volumes on Townsend Road have increased in line with this growth, making it increasingly difficult and hazardous for children to cross the road without the benefit of protection of a controlled crossing point. It is this increase in risk which led to the letter from the Board of Trustees.

3.10. When the existing pedestrian refuge was installed, it was done in such a way that it could be easily upgraded to a kea crossing in the future, should the need arise. Existing no-stopping restrictions provide the clear space required for the establishment of a Kea Crossing. Additional no-stopping restrictions are not required.

4. ISSUES AND OPTIONS

4.1. Consideration has been given to the appropriate crossing facility in this location.

4.2. The current pedestrian refuge has served its purpose in the short term, however, was designed to be able to accommodate a kea crossing in the same locations as the school role grew.

4.3. A full zebra crossing in this location has been considered but is not deemed to be necessary or appropriate, as there is not a strong pedestrian demand outside of school times, as would be required to justify a zebra crossing.

4.4. Installation of a Kea crossing at the existing crossing point is considered to be the most appropriate crossing facility and would provide children a safer option for crossing Townsend Road than the existing pedestrian refuge facility in both the short and longer term.

4.5. Responsibility in terms of managing the School Patrol staffing and operation of the Kea Crossing will be the responsibility of the school, specifically the Board of Trustees, represented by the School Principal. This was proposed in the letter received from the Board of Trustees, as per Attachment i, and would be subject to written approval including operating requirements from Council.

4.6. Training of the students in the conduct of a Kea crossing is the responsibility of the Police. The local Schools Community Officer has confirmed that he is supportive of this request.

4.7. Road safety for children outside schools is identified as a priority by Government in the Government Policy Statement on Land Transport 2024, which states that government will "*continue to prioritise the safety of young children outside schools*."

4.8. The following options are available to Council

- Option 1 – Approve the installation of a Kea crossing facility on Townsend Road, as proposed.

  The recommended option, this option would see the school patrol approved and the existing crossing upgraded to a Kea Crossing (including signs and markings), to enhance the safety of school children arriving at and leaving Te Matauru Primary School each day.

  It would also further encourage parents to allow their children walk to school by enhancing the perception of their safety at the crossing point.

- Option 2 – Decline to approve the installation of a Kea crossing facility on Townsend Road, as proposed.

  This option would result in the request being declined and the crossing continuing to operate as a pedestrian refuge only.

  This is not the recommended option as it would not address the growing risk faced by children arriving at and leaving the school, which is only likely to increase as development continues, the school role increases, and traffic movements along Townsend Road increase.

Implications for Community Wellbeing

There are implications on community wellbeing by the issues and options that are the subject matter of this report.

Road safety for school children is an issue of concern for community members. It is expected that Council will take steps where possible to enhance the safety of school children.

Improvements to this crossing has been requested through the school and also a number of service requests.

4.9. The Management Team has reviewed this report and supports the recommendations.

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū are not likely to be affected by or have an interest in the subject matter of this report.

5.2. Groups and Organisations

There are groups and organisations likely to be affected by, or to have an interest in the subject matter of this report.

The Board of Trustees and the wider school community will be interested in the outcome of this proposal.

Improvements to this crossing has been requested through a number of service requests.

5.3. Wider Community

The wider community is likely to be affected by, or to have an interest in the subject matter of this report.

The traffic delays caused by having to stop for school crossings is faced by motorists across New Zealand each day. These delays are offset by the enhanced safety provided to those children using the crossing.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

There are financial implications of the decisions sought by this report.

Budget of $30,000 has previously been approved within the Minor Safety Programme for 2025/26 for the implementation of the Kea Crossing (PJ102717.000.5133).

This budget is included in the Annual Plan/Long Term Plan.

6.2. Sustainability and Climate Change Impacts

The recommendations in this report have sustainability and/or climate change impacts.

Encouraging active travel modes for children’s travel to and from school encourages mode shift, a step toward encouraging less dependence on unnecessary automotive use.

6.3. Risk Management

There are risks arising from the adoption/implementation of the recommendations in this report.

The approval for a School Patrol to operate must be approved and authorised by the Road Controlling Authority (RCA), and the school must operate the crossing in accordance with clause 8.3 of the TCD Rule. The school will be formally notified in writing of the requirements that need to be met. Police provide assistance with training of staff and school patrollers.

The construction of the kea crossing must be undertaken to meet NZTA standard. The installation will be conducted by an approved contractor, with risk management for their activities in place.

6.4. Health and Safety

The purpose of this proposal is to enhance the safety of school children from Te Matauru Primary School.

7. CONTEXT

7.1. Consistency with Policy

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. Authorising Legislation

Approval to operate a School Patrol is legislated through the Land Transport Rule Traffic Control Devices 2004 Rule.

A Road Controlling Authority (RCA) may, in writing, authorise the Board of Trustees of a school to appoint persons as members of school patrols at specified school crossing points or pedestrian crossings to assist, direct and supervise children on their way to or from school.

A road controlling authority may provide a school crossing point on a road for which a speed limit of 50 km/h or less is set.

Where a school crossing operates, it must be operated in accordance with clause 8.3 of the TCD Rule.

The requirements for a school crossing point are outlined within clause 8.4 of the TCD Rule and Traffic Note 29.

7.3. Consistency with Community Outcomes

The Council's community outcomes are relevant to the actions arising from recommendations in this report, in particular "The natural and built environment in which people live is clean, healthy and safe.

7.4. Authorising Delegations

The Rangiora-Ashley Community Board has the delegation to consider matters relating to road works and traffic management projects within the Boards area.

Under the Delegations Manual Part 2, the Utilities and Roading Committee has delegation to consider Roading and Transportation matters (including road safety, multimodal transportation and traffic control).

TE MATAURU PRIMARY

Subject: Request for Kea Crossing on Townsend Road

Dear Community Board,

On behalf of the Te Matauru Primary School Board of Trustees, I am writing to formally request the establishment of a Kea Crossing at the existing road crossing on Townsend Road. As our school continues to grow, ensuring the safety of our students as they travel to and from school is of paramount importance.

We acknowledge the responsibility that comes with operating a Kea Crossing and are committed to providing the necessary staffing. Our staff will supervise the school patrol and school crossing point to ensure students and other pedestrians can cross safely.

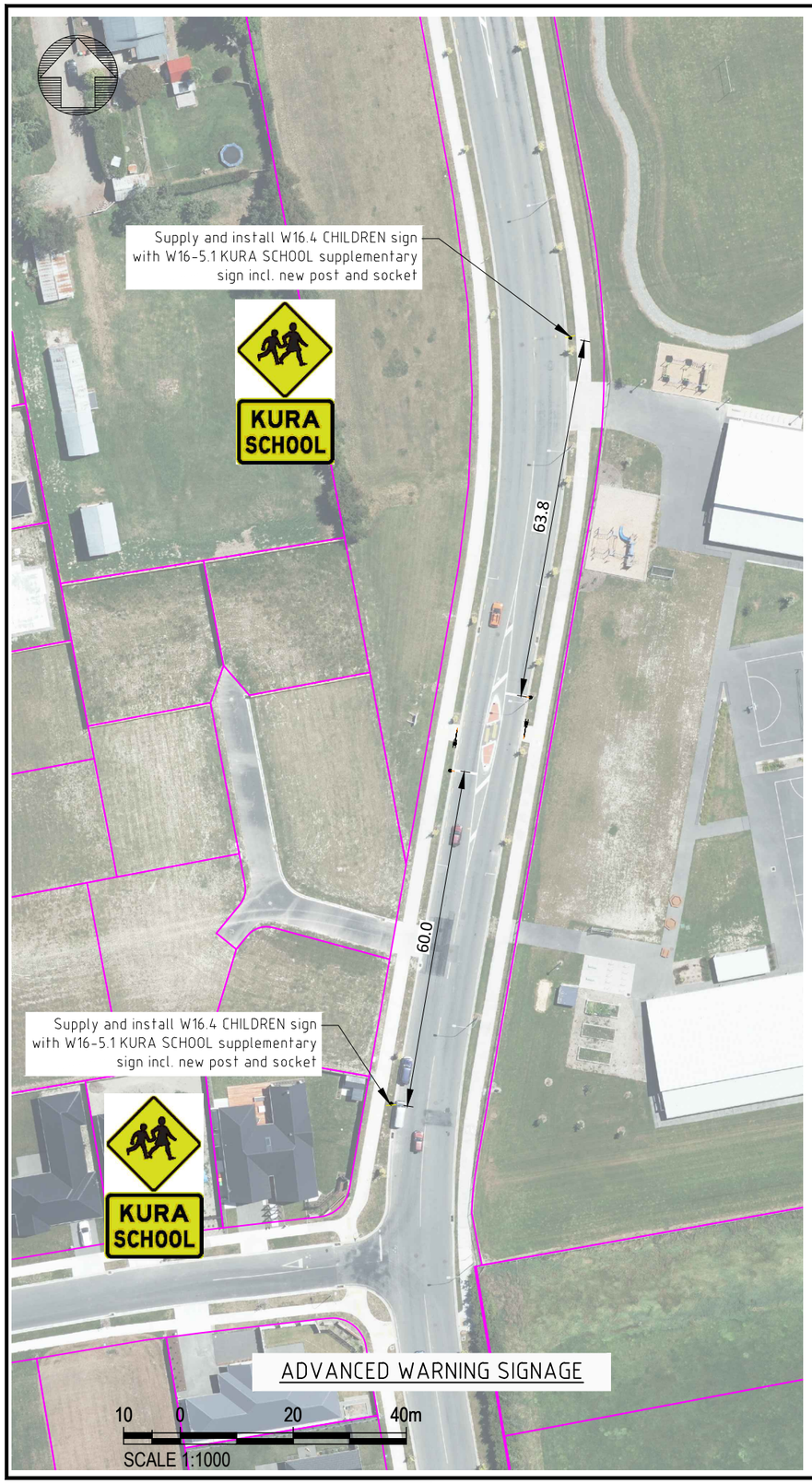
We would welcome the opportunity to discuss this request further and work collaboratively with the Council to implement a safe and effective solution. Please let us know a suitable time to meet or any further requirements we need to fulfill as part of this process.

Thank you for your time and consideration. We look forward to your response.

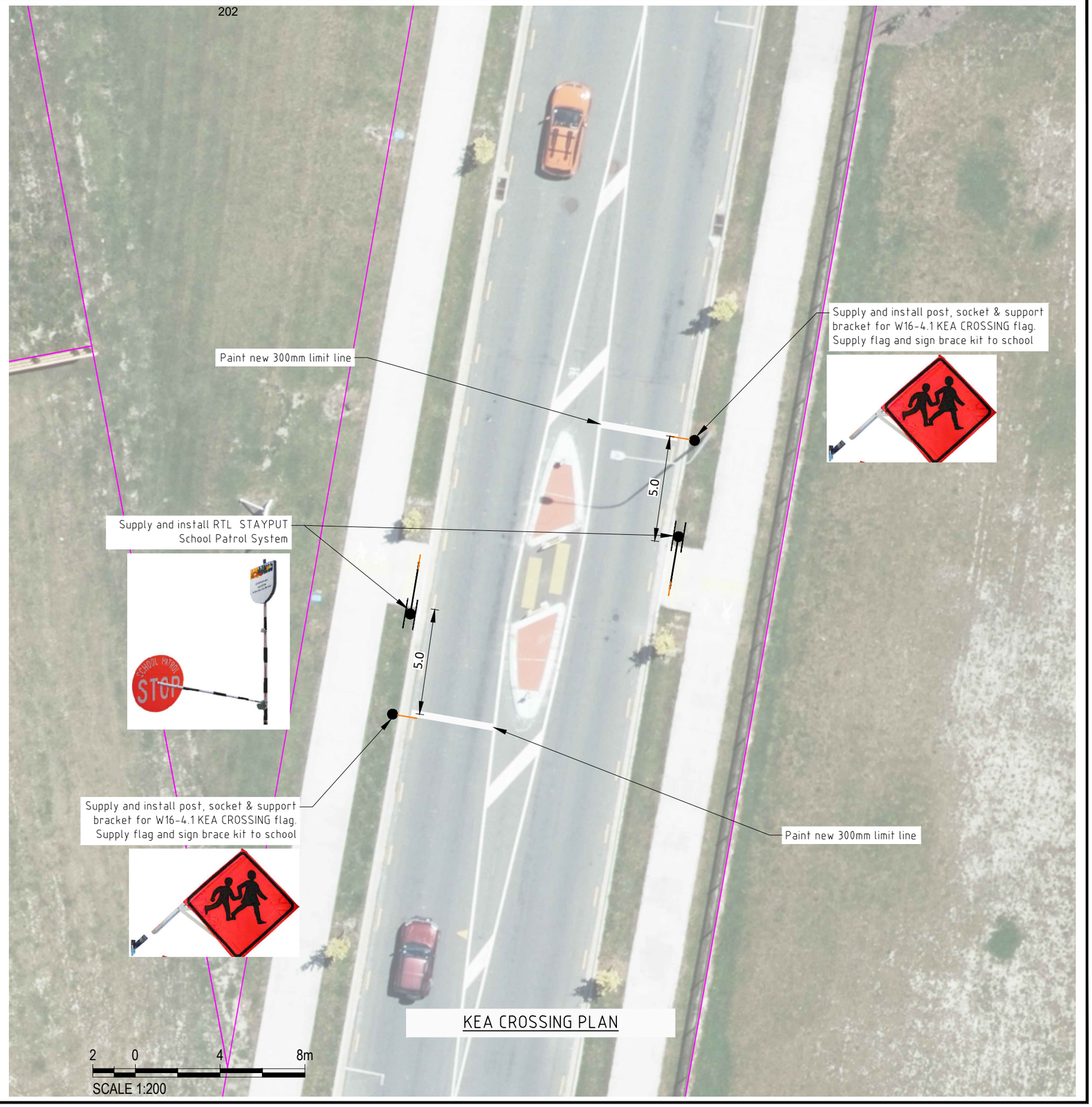
Yours sincerely,

K Jenkinson

Kerry Jenkinson
Presiding Member
Te Matauru Primary School Board of Trustees



ADVANCED WARNING SIGNAGE



KEA CROSSING PLAN

REV	REVISION DETAILS	DRN	CHK	APP	DATE
A	COVERT PED REFUGE TO KEA CROSSING	AK	---	---	27/03/2025

SURVEYED	---	---	PROJECT No	PD001696
DRAWN	AK	27/03/2025	CON No	--/--
DRAWING CHKD	---	---	SCALE (A3)	AS SHOWN
DESIGNED	---	---	DATUM ORIGIN	
DESIGNED CHKD	---	---	HORIZONTAL	NZTM GD2000
APPROVED	---	---	VERTICAL	NZVD 2016

WAIMAKARIRI DISTRICT COUNCIL

PROJECT: TOWNSEND ROAD KEA CROSSING

SHEET TITLE: SITE PLAN

FOR INFORMATION
NOT FOR CONSTRUCTION

DRAWING 4593

SHEET 01 | REVISION A

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-32-16-09 / 250822155240
REPORT TO:	RANGIORA-ASHLEY COMMUNITY BOARD
DATE OF MEETING:	12 November 2025
AUTHOR(S):	Srinath Srinivasan - Project Engineer (PDU) Joanne McBride - Roading and Transport Manager
SUBJECT:	Approval to Install No Stopping Restrictions – Charles Upham Drive
ENDORSED BY: **(for Reports to Council, Committees or Boards)**	General Manager / Chief Executive

1. SUMMARY

1.1. This report seeks a Community Board recommendation to the Utilities and Roading Committee for approval to install no-stopping restrictions associated with the proposed installation of a pedestrian refuge island on Charles Upham Drive, adjacent to the southern pedestrian access to the Ryman Village.

1.2. Charles Upham Drive is a collector road in north-west Rangiora that connects the Charles Upham Retirement Village and adjacent residential blocks with Oxford Road. It has a 9m wide carriageway which is divided into two travel lanes and on-street parking on one side only.

1.3. Pedestrian refuge islands are important to our community as they provide a safe crossing location. Pedestrian refuges allow pedestrians to cross the road in a staged manner and provide an area to wait for traffic in the centre of the road, before proceeding to cross the road.

1.4. The need to remove on-street parking is due to the refuge island being in the centre of the road, which results in the traffic lane moving towards the parking lane, and to ensure that there are clear sight lines for pedestrians to determine that the road is clear before proceeding to cross the street.

Attachments:

i. Charles Upham Drive New Refuge Island with Minor Line Marking Changes Plan (TRIM No. 250822155348)

2. RECOMMENDATION

THAT the Rangiora Ashley Community Board:

(a) **Receives** Report No. 250822155240

AND

THAT the Rangiora-Ashley Community Board recommends:

THAT the Utilities and Roading Committee:

(b) **Approves** the installation of no-stopping restrictions to accommodate the planned pedestrian refuge island installation.

(c) **Notes** that the no stopping restrictions required as a result of this project will be a 20m extension of the existing no-stopping on the eastern side Charles Upham Drive outside the Rymans Stormwater Reserve, to 55m north of the Oxford Road intersection.

(d) **Notes** that the installation of no stopping lines at this site equates to the loss of three on-street car parking spaces.

(e) **Notes** that consultation was undertaken and this pedestrian refuge is supported by Rymans Retirement Village Management and the adjacent Acorns Cafe. As part of the consultation the Montessori Preschool has been provided with the plans and have been asked to provide feedback. Staff have followed up regarding the proposal on multiple occasions, however, have had no response back.

(f) **Notes** budget for the proposed works has previously been approved for this project as part of the Minor Safety Programme (Walking and Cycling Projects PJ102719.000.5133).

3. BACKGROUND

3.1 The existing crossing point across Charles Upham Drive adjacent to the southern pedestrian access to the Charles Upham Village has a reasonable usage by the residents from the retirement village, particularly to access the Café.

3.2 A pedestrian refuge island offers significant safety benefits for elderly residents, as it allows them to cross one direction of traffic at a time, reducing both physical strain and cognitive demand. This type of crossing is particularly suited to older pedestrians, providing a safer and more manageable option for crossing Charles Upham Drive. The retirement village has made regular and repeated requests for an improved crossing facility at this location.

3.3 In addition to supporting elderly residents, a pedestrian refuge island also provides important safety benefits for families with young children, particularly those walking to and from the nearby school and pre-school. Children often lack the experience and judgment needed to safely assess gaps in two-way traffic. A refuge island allows them to cross in two stages, focusing on one direction of traffic at a time, which makes the crossing process safer and less overwhelming. They also make it easier for parents with small children to manage crossing the road.

4. ISSUES AND OPTIONS

4.1. When identifying locations for pedestrian refuge islands, staff consider the volume of both motor vehicles (including heavy vehicles) and pedestrians, pedestrian safety and desire lines, destinations, proximity to bends and intersections, proximity to vehicle entrances, and location of existing crossing locations.

4.2. The proposed location of the Charles Upham Drive pedestrian refuge island has been largely driven by the existing pedestrian cut downs that align with the footpath connection to the southern end of the Rymans development.

4.3. The Rangiora Community Board have the following options available to them.

4.3.1. Option One - Endorse the recommended no-stopping restrictions associated with this minor improvement project.

This is the recommended option as it provides a safer crossing point with clear sight distances between pedestrians and motor vehicles.

The design aims to minimise the loss of on-street parking by only restricting parking for the minimum required length.

4.3.2. Option Two – Retain the Status Quo

Decline the recommendations of this report and do not install any pedestrian refuge or no stopping restrictions.

This option is not recommended as it would result in poor safety outcomes for pedestrians who, in this location, are typically elderly, and less mobile that most members of our community, or are young families accessing the Pre-School.

Providing safe crossing locations is important for all pedestrians, but especially vulnerable members of our community. Safe crossing points also encourage people to participate in active transport modes.

The residents of the retirement village have been requesting improved crossing facilities around the area surrounding the village.

4.4. There are implications on community wellbeing by the issues and options that are the subject matter of this report. By providing quality pedestrian facilities and improving connectivity, community wellbeing is improved by providing the option of walking within our towns.

4.5. The Management Team has reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū are not likely to be affected by, or have an interest in the subject matter of this report.

5.2. Groups and Organisations

There are groups and organisations likely to be affected by, or to have an interest in the subject matter of this report.

The Waimakariri Access Group in general has an interest in improving the footpaths throughout the district and improving accessibility for the aging and mobility and / or vision impaired. They have provided some general feedback in regard to the importance of these facilities. Allowing provision for the road to be crossed in two halves makes finding a break in the traffic much easier, especially for people that are physically slower. They stressed that for some people with disabilities it can be difficult to walk or wheel too far, and an island gives them some safety and more time as they only have to cross one lane of traffic at a time.

Rymans Retirement home is supportive of the proposal, as their residents have made multiple requests for this refuge facility.

On the opposite side of Charles Upham Drive is a Café, and the Montessori Preschool. Council staff have discussed the proposal with the café. The Café has provided feedback, and they do not have any concerns with the proposal. Staff at the Montessori Preschool declined to discuss the proposal with Council staff despite multiple visits in person. Plans were subsequently emailed to the Preschool seeking feedback, however that email, along with follow up requests have not been responded to.

5.3. **Wider Community**

The wider community is not likely to be affected by, or to have an interest in the subject matter of this report.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. **Financial Implications**

There are financial implications of the decisions sought by this report.

The cost of the Pedestrian Refuge Island is estimated to be approximately $30,000, including the island, signage, line marking and the no stopping restrictions which are the subject of this report.

Budget of $30,000 has previously been approved within the Minor Safety Programme for 2025/26 for the installation of the pedestrian refuge island and associated works (PJ102719.000.5133). This budget is included in the Annual Plan/Long Term Plan.

6.2. **Sustainability and Climate Change Impacts**

The recommendations in this report do have sustainability and/or climate change impacts.

Improving pedestrian facilities encourages more sustainable travel mode choices, such as walking as well as safety benefits.

6.3. **Risk Management**

There are risks arising from the adoption/implementation of the recommendations in this report.

There is a risk that reduced on-street parking supply will lead to further congestion based on the adoption/implementation of the recommendations in this report. However, this risk is considered to be low, with on-street parking available on surrounding streets.

6.4. **Health and Safety**

There are health and safety risks arising from the adoption/implementation of the recommendations in this report.

Installation of pedestrian refuge islands are important to improve pedestrian safety and encourage compliance with posted speed limits.

7. CONTEXT

7.1. **Consistency with Policy**

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. **Authorising Legislation**

Section 2 of the *Land Transport Rule: Traffic Control Devices 2004* requires a Road Controlling Authority to "authorise and, as appropriate, install or operate traffic control devices".

7.3 **Consistency with Community Outcomes**

The Council's community outcomes are relevant to the actions arising from recommendations in this report.

Social

A place where everyone can have a sense of belonging…

- *Council commits to promoting health and wellbeing and minimizing the risk of social harm to its communities.*
- *Our community has equitable access to the essential infrastructure and services required to support community wellbeing.*

7.3. **Authorising Delegations**

As per Part 3 of the WDC *Delegations Manual*, the Community Board has the delegated authority to approve traffic control and constraint measures on streets within its ward area.

The Utilities and Roading Committee is responsible for roading and transportation activities, including road safety, multimodal transportation, and traffic controls.

NOTES

1. ALL MATERIALS AND INSTALLATION WORKS SHALL COMPLY WITH THE WDC ENGINEERING CODE OF PRACTICE.
2. ALL CONSTRUCTION INTERFACES TO BE SAWCUT AND TRIMMED TO A NEAT VERTICAL EDGE.

NEW 100MM THICK YELLOW NO-STOPPING LINES FOR 20M INCLUDING THE SPACE COVERING THE EXISTING CUT DOWN

REMOVE EXISTING CENTERLINE PERMANENTLY & REMARK NEW 100mm THICK WHITE SOLID LINE BY 0.4m WEST OF THE EXISTING CENTERLINE

EXTEND EXISTING 300mm THICK LIMIT LINE BY 0.4m & CONNECT WITH NEW CENTERLINE

CHARLES UPHAM DRIVE

OXFORD ROAD

4.69
4.31
4.90
4.10
3.00
3.90
1.80
2.20
3.00
3.90

INSTALL 10M WIDE PEDESTRIAN ISLAND AS PER CCC SD 635 - PAVED ISLAND INFILL TO BE CONCRETE, COLOURED TRAFFIC RED

SCHOOL & CAFE

NO EXIT

2.5 0 5 10m

SCALE 1:250

REV	REVISION DETAILS	DRN	CHK	APP	DATE
A	SCHEME DESIGN	SS	KS	---	31/07/2025

SURVEYED	---	--/--/2025	PROJECT No	PD001696
DRAWN	SS	23/07/2025	CON No	CON20----
DRAWING CHKD	KS	--/--/2025	SCALE (A3)	1:250
DESIGNED	SS	24/07/2025	DATUM ORIGIN	
DESIGNED CHKD	KS	--/--/2025	HORIZONTAL	NZTM GD2000
APPROVED	---	--/--/2025	VERTICAL	NZVD 2016

WAIMAKARIRI DISTRICT COUNCIL

PROJECT

CHARLES UPHAM STREET
RANGIORA
MINOR IMPROVEMENTS

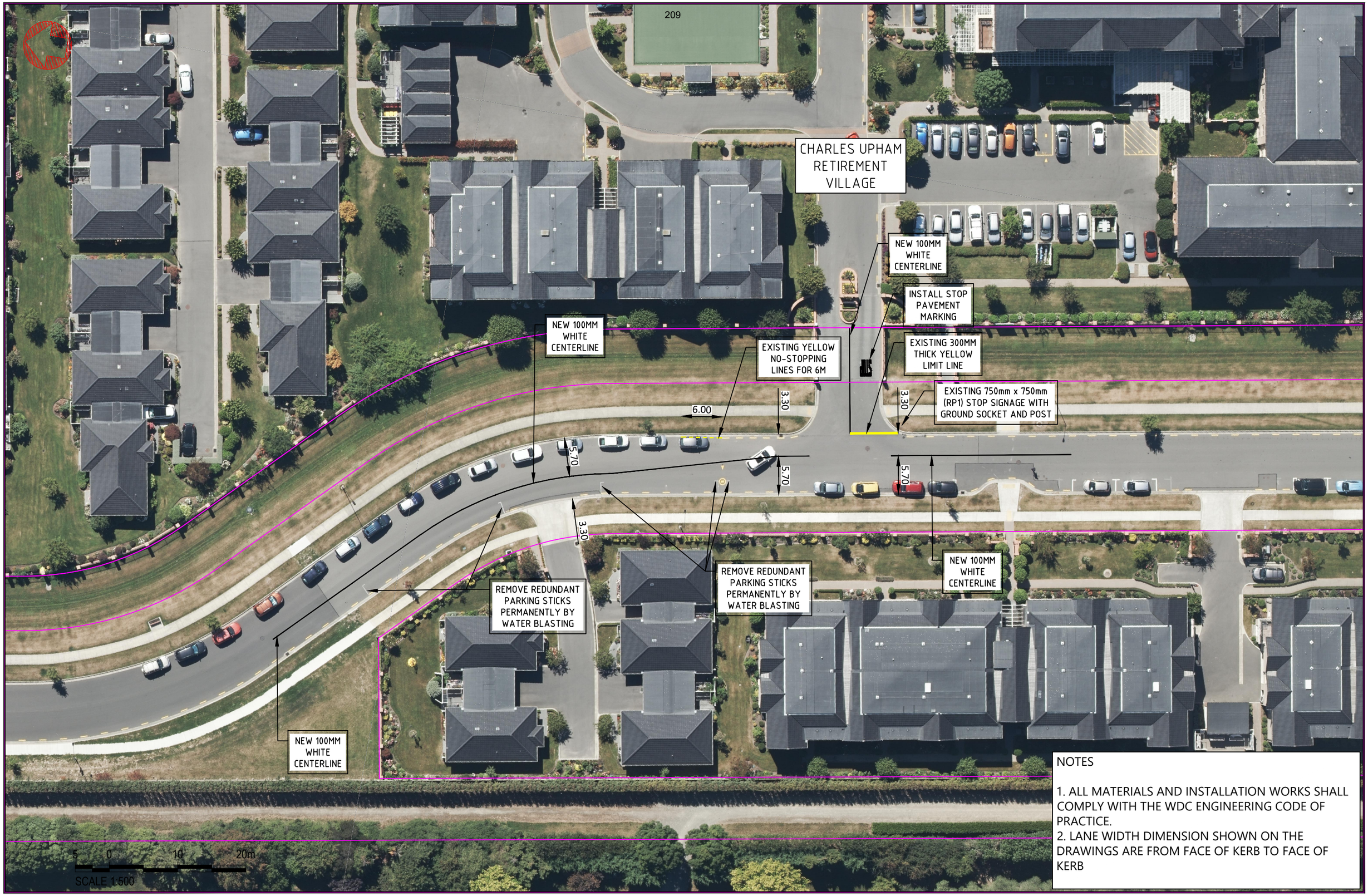
SHEET TITLE

REFUGE ISLAND INSTALLATION
AND
MINOR LINE MARKING CHANGES

FOR TENDER
NOT FOR CONSTRUCTION

DRAWING	
	4625
SHEET	REVISION
01	A

PLOT DATE: 28/10/2025 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001696 ROADING MINOR IMPROVEMENTS 2020-2021\2025-2026 MINOR IMPROVEMENTS\CHARLES UPHAM DRIVE - REFUGE ISLAND\CHARLES UPHAM DRIVE - NEW REFUGE ISLAND (28TH OCT 2025).DWG



NOTES

1. ALL MATERIALS AND INSTALLATION WORKS SHALL COMPLY WITH THE WDC ENGINEERING CODE OF PRACTICE.
2. LANE WIDTH DIMENSION SHOWN ON THE DRAWINGS ARE FROM FACE OF KERB TO FACE OF KERB

REV	REVISION DETAILS	DRN	CHK	APP	DATE
A	SCHEME DESIGN	SS	KS	---	31/07/2025

SURVEYED	---	--/--/2025	PROJECT No	PD001696
DRAWN	SS	23/07/2025	CON No	CON20----
DRAWING CHKD	KS	--/--/2025	SCALE (A3)	1:500
DESIGNED	SS	24/07/2025	DATUM ORIGIN	
DESIGNED CHKD	KS	--/--/2025	HORIZONTAL	NZTM GD2000
APPROVED	---	--/--/2025	VERTICAL	NZVD 2016

WAIMAKARIRI DISTRICT COUNCIL

PROJECT

CHARLES UPHAM STREET
RANGIORA
MINOR IMPROVEMENTS

SHEET TITLE

MINOR LINE MARKING CHANGES

OUTSIDE RETIREMENT VILLAGE

FOR TENDER
NOT FOR CONSTRUCTION

DRAWING	
	4625
SHEET	REVISION
2	A

PLOT DATE: 28/10/2025 FILE: S:\PD\UPDU JOBS\PD001600-1699\PD001696 ROADING MINOR IMPROVEMENTS 2020-2021\2025-2026 MINOR IMPROVEMENTS\CHARLES UPHAM DRIVE - REFUGE ISLAND\CHARLES UPHAM DRIVE - NEW REFUGE ISLAND (28TH OCT 2025).DWG

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-03-09 / 251013193629
REPORT TO:	RANGIORA-ASHLEY COMMUNITY BOARD
DATE OF MEETING:	12 November 2025
AUTHOR(S):	Shane Binder, Senior Transportation Engineer Joanne McBride, Roading and Transport Manager
SUBJECT:	Provide Consultation Feedback and Request Approval of Coronation Street No-stopping Restriction
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report:

- Provides an outline of the feedback received through the consultation period in relation to the proposed no-stopping on Coronation Street, and;
- Seeks approval to establish no-stopping restrictions on Coronation Street, from the Southbrook Road intersection for 55 m west to the driveway at no. 31.

1.2. Concerns have been raised in relation to the road being too narrow to accommodate two lanes traffic, confusion about cars parked near the intersection or queuing, and visibility when exiting driveways. There have been six service requests related to this issue since 2023.

1.3. Coronation Street is a local road with a number of businesses in the immediate area and as such there is a need to balance accommodating through traffic and on-street parking.

1.4. As part of the Southbrook Road / Coronation Street intersection design, Coronation Street was designed to operate with a narrow roadway to encourage slower speeds and discourages rat-running traffic via Buckleys Road.

1.5. Having side friction from parking and limited lane width means that drivers are required to proceed carefully and drive courteously, similar to other local streets in the district.

1.6. A report was taken to the 13 August 2025 meeting of the Rangiora-Ashley Community Board, and at that meeting the Community Board endorsed consultation being undertaken with businesses and residents in this block of Coronation Street on a proposal for no-stopping restrictions.

1.7. Consultation letters were sent to 24 residents, property owners, and businesses along the street. An online information / survey form was also provided for general public feedback; this was advertised in the consultation letters. In total, 11 responses were received.

- Seven responses supported the no-stopping restrictions as consulted.
- Four responses opposed the no-stopping restrictions as consulted.
- Two responses generally supported no-stopping restrictions but suggested modifications.
- One response requested re-evaluation of the options and for a range of infrastructure changes.
- Five of the above responses also requested widening the existing carriageway

1.8. Feedback from the consultation process has been considered and included in the updated recommendations in this report.

1.9. While the feedback was somewhat mixed, four responses were favourable for installing the no-stopping lines, and two requested the no stopping lines be extended for a longer length.

1.10. It is recommended that the no-stopping lines be installed for the initial 55 m as was recommended in the consultation in the first instance, and that this is then monitored. Future consideration could then be given to any further changes required.

1.11. Staff will take a separate report to Council as part of the Long-Term Plan process in relation to the cost of widening the road, which will need to be considered alongside other District priorities.

Attachments:

i. Summary of September 2025 No-Stopping Consultation, Coronation Street (TRIM no. 251020199432)

2. RECOMMENDATION

THAT the Rangiora-Ashley Community Board:

(a) **Receives** Report No. 251013193629.

(b) **Notes** that any infrastructure improvements would need to be prioritised against other demands across the Waimakariri District and that staff will prepare a separate report to Council for consideration as part of the Long-Term Plan process.

AND

THAT the Rangiora-Ashley Community Board recommends:

THAT the Utilities and Roading Committee:

(c) **Approves** installation of the following no-stopping restriction:

- Coronation Street, from the Southbrook Road intersection for 55m west to the driveway at no. 31.

3. BACKGROUND

3.1. There have been six service requests related to the operation of Coronation Street since the traffic signals at the Southbrook Road intersection were installed in 2023. These service requests have raised the following concerns:

- The road being too narrow to accommodate two-way traffic.
- Confusion about whether cars are parked on the northern side of the road leading into the intersection, or if they are queued waiting for the traffic signals.

3.2. Visibility for residents exiting their properties along Coronation Street due to on street parking.

3.3. Coronation Street is a local road with an average daily traffic volume of 660 vehicles/day measured in 2022 and a carriageway width varying between 7.5 and 8.7 m. There is a mixture of businesses and residences on the block approaching the Southbrook intersection, and as such there is a need to balance accommodating both through traffic and on-street parking demand.

3.4. When the Southbrook Road / Coronation Street intersection design was undertaken, Coronation Street was intentionally designed to operate with a narrow roadway. This encourages low speeds and discourages rat-running traffic to and from Southbrook via Buckleys Road, in particular during peak hours when congestion occurs on Southbrook Road and drivers are more likely to seek "quicker routes." This focus on reducing rat-running was intended to address concerns that arose from consultation with residents of Buckleys Road and Coronation Street on the intersection upgrade, and the previous petition from the Buckleys Road residents about short cutting and speed on Buckleys Road.

3.5. Having the side friction of parking and limited lane width means that drivers are required to proceed carefully and drive courteously, similar to other local streets in the district.

3.6. A report was taken to the 13 August 2025 meeting of the Rangiora-Ashley Community Board, and at that meeting the Community Board endorsed a consultation with businesses and residents in this block of Coronation Street on a proposal for no-stopping restrictions.

3.7. Consultation was undertaken on installing a no-stopping restriction for a length of 55m between the driveway to no. 31 and Southbrook Road, as per Figure One on the next page. This would remove four on-street car parks.

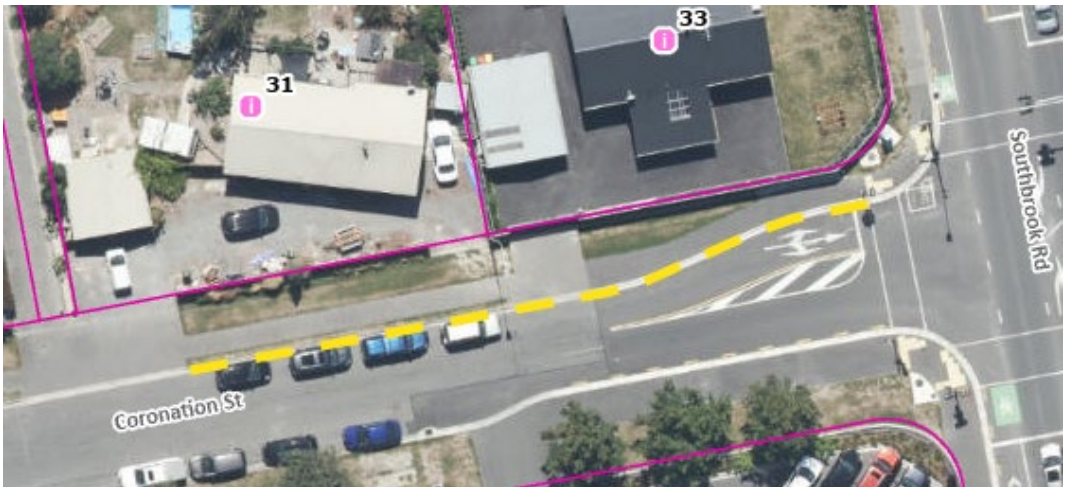


Figure One – Coronation Street proposed No Stopping restriction

4. ISSUES AND OPTIONS

4.1. 24 consultation letters were sent to residents and property owners along the street, as well adjacent businesses. An online information / survey form was also provided for general public feedback; this was advertised in the consultation letters. Letters were sent out on 18 September at the same time that the online survey page went live; the consultation closed on 10 October.

4.2. Feedback was received from 14 respondents, including residents on the affected block, surrounding streets, four businesses, and the general public.

4.2.1. Seven responses (50%) supported the no-stopping restrictions as consulted.

- One supported but noted concerns about shifting the parking west.
- One supported but wanted the road widened.
- Five generally supported with other material comments, including the businesses consulted along Southbrook Road.
- One business noted concerns around parking relocating around the Buckleys / Coronation intersection and interfering with manoeuvres.

4.2.2. Four responses (29%) opposed the no-stopping restrictions as consulted.

- Two supported road widening.
- One opposed any changes and supported the road being narrow to discourage rat running.
- One opposed the no-stopping and wanted business parking to be on private land

4.2.3. Two responses (14%) generally supported no-stopping restrictions but suggested modifications.

- One supported no-stopping restrictions but requested extra 24 m of no-stopping (removing an extra 4 carparks beyond the consulted option). Suggested creating angle parking further west near the dog park.
- One response requested the no-stopping be extended for the full length on the north side of the road between Southbrook Rd and Buckleys Rd (removing an extra 11 carparks beyond the consulted option).

4.2.4. One response (7%) requested re-evaluation and suggested significant changes including a new traffic signal at Johns Road / Percival Streets intersection, shifting business parking, traffic calming at Coronation Street / Buckleys Road intersection, and widening the carriageway.

4.3. Five of the above responses requested widening the existing carriageway. One of the above responses supported the existing carriageway width and parking usage to minimise rat-running appeal.

4.4. Feedback from the consultation process has been considered and included in the updated recommendations in this report. A summary of feedback is included in Attachment i.

4.5. It is noted that any infrastructure improvements on Coronation Street would need to be prioritised against other demands across the District and that staff will bring a separate report to Council as part of the Long-Term Plan process for Council consideration.

4.6. The Rangiora-Ashley Community Board has the following options available to them:

4.7. Option One: Approve the installation of no-stopping restrictions as consulted from No. 31 to Southbrook Road

This option would see the Rangiora-Ashley Community Board recommend that the Utilities and Roading Committee approve the installation of a no-stopping restriction at the location shown above in Figure 1.

On balance, this would allow for a wider moving area coming into the intersection, allowing additional space for vehicles to stack and the intersection, and providing additional space for vehicles entering Coronation Street to assess oncoming traffic.

If approved, once the no-stopping is installed, then the area would be monitored and if required, future consideration could then be given to any further changes which might be needed. A report would be taken to Council as part of the Long Term Plan process, to consider options for infrastructure improvements, balanced against other needs within the District.

This is the recommended option because it improves the approach to the intersection and removes potential confusion around stacking and parking areas.

4.8. Option Two: Approve the installation of no-stopping restrictions for a longer length than was consulted upon (to 103 m length in total)

This option would see the Rangiora-Ashley Community Board recommend that the Utilities and Roading Committee approve the installation of a no-stopping restriction of 103 m (to the west side of the driveway to no. 23 Coronation Street) resulting in a loss of 8 parking spaces).

It is considered that there would be no safety benefit in extending the no-stopping beyond this point, and in fact doing so would likely result in increased numbers of those choosing to short cut through Buckleys Rd, due to the reduction in side friction and increase attractiveness of a wide and open through road.

Therefore, this is not the recommended option.

4.9. Option Three: Decline the recommendations of this report and retain the status quo

This is not the recommended option because there are operational impacts due to confusion approaching the Coronation Street / Southbrook Road intersection, which the installing no-stopping restriction proposed in this report will help address.

Implications for Community Wellbeing

There are implications on community wellbeing by the issues and options that are the subject matter of this report.

These proposed restrictions maintain roading infrastructure to provide safe access for residents within the district.

4.10. The Management Team has reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū are not likely to be affected by, or have an interest in the subject matter of this report.

5.2. Groups and Organisations

There are groups and organisations likely to be affected by, or to have an interest in the subject matter of this report.

Following the August meeting of the Rangiora-Ashley Community Board, consultation has been undertaken with 21 residents, property owners, and businesses along the street. An online information / survey form was also provided for general public feedback; this was advertised in the consultation letters. In total, 11 responses were received and are outlined in Attachment i

Feedback from the consultation process has been considered and included in the recommendations in this report.

5.3. Wider Community

The wider community is likely to be affected by, or to have an interest in the subject matter of this report.

As this is a local road, through traffic is not encouraged in the area. Making the route more attractive to through traffic could negatively impact the wider area, including Buckleys Road.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

There are financial implications of the decisions sought by this report. There are minimal costs associated with installing no-stopping lines along these streets, as all it involves is line marking.

The costs are estimated to be less than $100 and can be accommodated within the Road Maintenance budgets (Pavement Marking GL 10.270.582.2500). This budget is included in the Annual Plan / Long Term Plan.

6.2. Sustainability and Climate Change Impacts

The recommendations in this report are considered to be localised and minor in nature and will not have sustainability or climate change impacts.

6.3. Risk Management

There are not risks arising from the adoption/implementation of the recommendations in this report.

6.4. Health and Safety

There are minor health and safety risks arising from the adoption/implementation of the recommendations in this report.

Physical works will be undertaken through the Road Maintenance Contract. The Road Maintenance contractor has a Health and Safety Plan and a SiteWise score of 100.

7. CONTEXT

7.1. Consistency with Policy

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. Authorising Legislation

Section 2 of the Land Transport Rule: Traffic Control Devices requires a Road Controlling Authority to "authorise and, as appropriate, install or operate traffic control devices."

7.3. Consistency with Community Outcomes

The Council's community outcomes are relevant to the actions arising from recommendations in this report. This report considers the following outcomes:

Social: a place where everyone can have a sense of belonging

- Our community has equitable access to the essential infrastructure and services required to support community wellbeing.

Environmental: a place that values and restores our environment

- The natural and built environment in which people live is clean, healthy and safe.

Economic: a place that is supported by a resilient and innovative economy

- Enterprises are supported and enabled to succeed.
- Infrastructure and services are sustainable, resilient, and affordable.

7.4. Authorising Delegations

As per Section 3 of the Waimakariri District Council's *Delegations Manual*, the Rangiora-Ashley Community Board has the delegated authority to recommend the installation of no-stopping restrictions on roads within its ward area.

The Utilities and Roading Committee has the delegated authority to approve no-stopping restrictions.

Summary of resident feedback, September 2025 Coronation Street no-stopping consultation

Property	Feedback	View on proposal	Alternative	Staff response
1	It appears that the suggestion to impose a no parking zone in Coronation Street, as proposed for consultation, whilst being desirable for traffic safety, is a direct result of the failure by Rangiora Motor Group to achieve the planned on-site parking facilities, or to take any alternative actions to mitigate their effects on the neighbours. As a result, on street parking at the eastern end of Coronation Street is so intense as to now cause a traffic safety issue. The move to prohibit parking for 55m from the traffic lights will alleviate that immediate problem but will also simply shift the burden to the households further to the west, including 19 Coronation Street. Those vehicles parked near the lights will move further down Coronation Street and hinder safety outside of those homes and further erode the residential nature of the street. It appears that the only way to overcome this situation is to widen Coronation Street, thus allowing parking and alleviating the bottle neck at the Coronation Street, Southbrook Road intersection. There is plenty of room in the road berms on both sides of the street to allow this. The speed humps in Buckleys Rd. should be sufficient to deter rat runners. I see no problem in still having a short extension to the no parking area closer to the traffic lights, but having a wider road will ensure a greater level of safety. I know that some traffic planners deliberately want to keep the narrow street to slow traffic, but this view flies in the face of reality. The narrowness of the street is a major safety concern, not helped by the increase in traffic entering and exiting Rangiora Motor Group. In summary, solving a traffic problem by shifting the parking nuisance, largely caused by Rangiora Motor Group, by moving the parked cars to outside more residential properties, will simply damage the enjoyment of residential neighbours, with no negative impact on the business which causes the problem. There is nothing fair or equitable about that situation.	Oppose	Widen carriageway	Any provision of new infrastructure will need to be prioritised against the rest of the District's needs
2	The design of the narrowness of this street was a mistake. It has created confusion and problems since the road was done. Personally I think there should be no parking for the full length from Buckleys Rd to Southbrook Rd, otherwise the problem just shifts along.	Support but modify (lengthen)	Widen carriageway	Any provision of new infrastructure will need to be prioritised against the rest of the District's needs
3		Support		
4	We need to make it as difficult as possible for the rat runners during times of congestion on the main road. I believe the more cars we have parked on Coronation St the better. Another contributor is the breaking off from the queue northbound at NPD, travelling behind Paknsave to Torlesse, then crossing into Coronation St. As they stand, the speed bumps in Buckleys Rd are no deterrent. I think thetraffic light phases are about right. I don't mind the wait because it is now safe.	Oppose	Leave alone	
5	I have concerns that this will unfortunately shift the problem further down the street. I have been approached by a dissatisfied resident that believes we should be parking staff vehicles on private land. There are a number of businesses that have their staff park on Coronation Street.	Support		
6	Widen the road and put parallel parking outside Rangiora Mitsubishi for customers. Remove grass verge and transplant tree to other side of coronation st.	Support	Widen carriageway	Any provision of new infrastructure will need to be prioritised against the rest of the District's needs
7	I frequently use that section to access the local school for kids sport/activities	Support		

Summary of resident feedback, September 2025 Coronation Street no-stopping consultation

Property	Feedback	View on proposal	Alternative	Staff response
8	<u>The measures implemented to date have proven inadequate or have created new issues:</u> 1. Increased Rat Running on Coronation St and Buckley's Rd: Traffic volume has escalated dramatically, with this route now heavily used by school traffic and rat racers seeking to avoid delays at the Southbelt intersection. While four speed bumps were installed on Buckley's Rd, the volume and speed of traffic remain a significant concern. The narrowing of Coronation St between Buckleys Rd and the traffic light intersection has not successfully discouraged additional traffic. 2. Intersection Congestion and Business Traffic: The combined effects of the traffic lights, increased business activity, and poor parking management are creating a severe bottleneck. Staff from nearby commercial sites are parking along Coronation Street, creating a “bottle neck” at the intersection that frequently reduces traffic flow to only one usable lane. The Mauri Stockfeed (Mill) operation on Southbrook Road, with its traffic (including heavy trucks) exiting Buckley's Road onto Coronation Street, further exacerbates congestion and hazards for both residents and commuters. Mitsubishi car dealership use Coronation St to test vehicles for WOFs. They also have truck and trailer units dropping cars off several times a week. 3. Dangerous Corner Cutting: A major safety hazard is the frequency of drivers cutting the corner when turning from Coronation Street onto Buckley's Road, or vice-versa. This is an accident waiting to happen. We have personally experienced two separate, serious incidents in the past where drivers taking the corner too fast resulted in one crashing through our fence, and another destroying a large flowering chestnut tree (20 cm diameter), which the Council was notified of and subsequently replaced with a Kowhai tree. These events clearly demonstrate the severe risk posed to property and life. 4. Parking Displacement and Blind Spots: The proposed addition of yellow 'no parking' lines near the lights on Coronation Street is deeply concerning as it will only shift the parking issue further down the road, closer to the Buckley's Road corner. This will create blind spots for residents reversing out of their driveways. We personally will be faced with the dual risk of increased parked cars blocking the view combined with fast-approaching traffic from the corner. This is a very real and serious safety concern for us. <u>Given the severity of these issues, I urge the Council to explore the following solutions:</u> 1. Traffic Management Alternative: Consider installing traffic lights at the intersection of Johns Road and Percival St. This would provide a legitimate alternative route for traffic approaching Percival/Southbrook Road, which could significantly alleviate the rat-running pressure currently being placed on Coronation Street and Buckley’s Road, plus reduce the heavy traffic congestion at the Southbelt and Southbrook Road traffic light intersection.	Needs re-evaluation	1. Traffic signal at Johns / Percival 2. Shift business parking 3. Traffic calming at Coronation / Buckleys intersection 4. Widen carriageway	Thank you for your suggestions. 1. Council intends to construct the Rangiora Eastern Link as an alternative to Southbrook Road later this decade. 2. Council can pass this on to the businesse but we do not have the ability to require its implementation. 3./4. Council can look into this intersection but any provision of new infrastructure will need to be prioritised against the rest of the District's needs.
	2. Review of Parking Strategy: The proposal for 'no parking' lines must be immediately re-evaluated. A comprehensive solution for business and staff parking is required that does not simply transfer the hazard to residential driveways. Perhaps mandated off-street parking for businesses or a designated parking area should be considered. 3. Physical Corner Modification: Implement physical traffic calming measures at the corner of Coronation Street and Buckley's Road to physically prevent corner-cutting and force drivers to slow down when making the turn. This is critical to prevent further property damage or a serious accident. 4. Widen Coronation St between the lights and Buckleys Rd to allow two way traffic and parking on both sides of the road			

Summary of resident feedback, September 2025 Coronation Street no-stopping consultation

Property	Feedback	View on proposal	Alternative	Staff response
9	I do not agree with council proposal and don't want the Nissan garage workers moved West along Coronation street. They could park on Torlesse st and Nissan could lease car parking at the Southbrook Mill same as what “Driven” does with staff and customer cars. In the evenings and weekends when Nissan isn’t open, the properties with the no parking outside will not be able to park their cars or their visitors cars. Which they do and should have a right too. Installing the no parking as indicated will only move the problem towards cars parking nearer Buckleys road cnr so cars driving East will have no where to pull over for oncoming traffic heading West (from Southbrook road.) We believe that Coronation street should be widened so two cars are able to pass safely. This street is frequently used by trucks coming from the Mill and car transporter trucks delivering cars from the end of the street. Also this is a busy street for school drop offs and pick ups. Plus many children walk past our house to and from school.	Oppose	Widen carriageway	Any provision of new infrastructure will need to be prioritised against the rest of the District's needs
10	Installing a no-stopping restriction on one side of Coronation St. (from No. 31 to Southbrook Rd) does not solve the problem, rather it just maintains the problem but allows vehicles to drive faster on that part of the road. The no−stopping will also discriminate against those residents on that part of the road, [a] where the no stopping takes effect and [b] impact on property values. Another issue not yet raised is that vehicles from the Nisson service centre are being road tested [at speed] on Coronation and Buckleys Road. The volume of vehicles using these roads is increasing, refer to the three-year-old WDC traffic count data [Coronation St. @ 660 on the 6/5/2022 and Buckleys Rd. @ 838 on the 9/22/2025]. Additionally, the soon to be completed Sommerset Rangiora housing complex (on corner of South Belt and Townsend Rd) will dramatically increase road traffic in this area. Although this problem is of the WDC making I suggest that Mitsubishi / Nisson Service centre acquire the now empty building and parking lot on the corner of Coronation and (No.15) Buckleys Road.	Oppose	Shift business parking	Council can pass this on to the business but we do not have the ability to require its implementation
11	The use of parking on Coronation Street effects a lot more than the first two houses it has considerable effort on properties up to and beyond [my house]. It stretches up Coronation Street to the other side of my driveway and I therefore suggest that is where the No stopping Restrictions start. Almost on a daily basis when I "edge" out of my driveway I'm tooted at or get shown a finger sign!! It's become a hazard just leaving and returning home!! On one occasion I couldn't access my drive as a parked vehicle encroached over my driveway entrance!! Another "idea" of mine is can the Council not create angle parking along the opposite side of the road starting from Buckley Road going up towards the dog park. There certainly is plenty of ground available to do so!? It would only add a few extra metres to the walk of those people who are now creating a hazard for residents on Coronation Street.	Support but modify (lengthen)		Council can look into angled parking but any provision of new infrastructure will need to be prioritised against the rest of the District's needs
12	Generally support the proposed no-stopping, noting that they use Coronation Street for occasional driving but park mostly onsite	Support		
13	Generally support the proposed no-stopping, noting that staff parking on Coronation Strete have observed issues with the narrow carriageway previously	Support		
14	Generally support the proposed no-stopping, noting that they could see potential for parking further west along Coronation Street to potentially impact manoeuvres at the Buckleys Rd / Coronation St intersection	Support		Council staff will monitor parking to ensure it does not impact the intersection

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-08-09 / 250825156479
REPORT TO:	KAIAPOI TUAHIWI COMMUNITY BOARD
DATE OF MEETING:	17 November 2025
AUTHOR(S):	Kieran Straw – Civil Projects Team Leader Joanne McBride – Roading and Transportation Manager
SUBJECT:	Proposed Changes to Ohoka Road Line Markings
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report is seeking approval of proposed line marking changes along Ohoka Road, in conjunction with the planned routine resealing which is programmed for the upcoming sealing season.

1.2. The planned reseal provides an opportunity to put back line marking in accordance with the Engineering Code of Practice, and to install markings which have previously been requested by and discussed with the Community Board.

1.3. The proposed changes would include the following:

1.3.1. Installation of 1.8m cycle lanes between Williams Street and the Kaiapoi High School.

1.3.2. Removal of the existing painted median (between Williams Street and Peraki Street)

1.4. The changes can be accommodated within the existing carriageway without the need for any No Stopping line to be installed and does not impact any on-street parking.

1.5. The above is considered a pragmatic way to improve the level of service for cyclists in this area, without any significant additional cost over the status quo option, as there is no water blasting required to remove the flush median (due to resealing).

Attachments:

i. Proposed Line Marking Plan (Trim No. 250903167205)

2. RECOMMENDATION

THAT the Kaiapoi-Tuahiwi Community Board:

(a) **Receives** Report No. 250825156479.

AND

THAT the Kaiapoi-Tuahiwi Community Board recommends:

THAT the Utilities and Roading Committee:

(b) **Approves** the proposed line marking changes (Trim: 250903167205).

(c) **Notes** that the estimated cost associated with the proposed line marking changes is $1,600, and this will be funded through the Traffic Services budget (GL 10.270.583.2500)

(d) **Notes** that the proposed line marking changes are in accordance with the Engineering Code of Practice.

(e) **Notes** that there is no change to on-street parking as a result of the proposed changes.

3. BACKGROUND

3.1. Ohoka Road is an east-west arterial road in Kaiapoi that carries approximately 7,000 vehicles per day. It serves as connection between Williams Street and the Kaiapoi Town Centre to the east, and the Motorway, and Silverstream to the west.

3.2. The extent of the planned reseal is approximately 800m between the Williams Street roundabout and, and the intersection of Robert Coup Road, near the Kaiapoi High School.

3.3. Ohoka Road has a width of 14.1m, and east of Peraki Street, the existing line marking layout includes a 1.5m painted median.

3.4. Painted medians are not a requirement of the Waimakariri District Council's Engineering Code of Practice, however they are often found on roads with high traffic volumes, high vehicle turning movements (into commercial or industrial properties), or roads where excess road widths have led to higher traffic speeds.

3.5. The proposed line marking layout seeks to re-allocate the road width by replacing the current painted median with cycle lanes between Williams Street and the High School.

3.6. In 2019, there was a proposal to that was consulted on to install cycle lanes in Ohoka Road. This consultation was required due to the need to remove on-street car parking. However since this consultation, Council have proceeded with an upgrade of the Peraki Street intersection (as required for the Peraki St cycleway), and with the installation of pedestrian crossing outside the High School. Both of these projects included parking restrictions, and as a result, to complete the on-road cycle lanes, no further on-street parking is required to be removed.

3.7. The 2019 cycle lane proposal never eventuated as about this time, Council was consulting on the district wide Walking & Cycling Network Plan. This plan proposed a higher level of service for Ohoka Road, such as a separated cycle facility.

3.8. Council approved the Cycle Network Plan in September 2022.

3.9. It is unlikely that a shared separated cycle provision would be progressed in Ohoka Road in the short to medium term, and as such the planned reseal presents an opportunity to provide on road cycle lanes for cyclists, without contributing any additional cost, due to the planned reseal.

4. ISSUES AND OPTIONS

4.1. There are two options available to the Community Board:

4.1.1. Option One – Retain the Status Quo

This option seeks to reinstate the existing line marking on Ohoka Road, like for like, following the planned reseal.

This option is not recommended as there is an opportunity available to bring the line marking into accordance with the Engineering Code of Practice, without adversely impacting parking for residents of Ohoka Road.

4.1.2. Option Two - Proceed with amended line marking plan

This option seeks to install a more appropriate cross section along the length of Ohoka Road, catering to a wider range of road users.

This option brings the road layout into alignment with the Engineering Code of Practice, and allows for the following cross section:

- 2.1m (min) on street parking (including kerb fender)
- 1.8m cycle lane
- 3.2m traffic lane
- 3.2m traffic lane
- 1.8m cycle lane
- 2.1m (min) on street parking (including kerb fender)

This is the recommended option as it provides dedicated on road cycle lanes for cyclists using the road, although the total quantity of line marking results in additional predicted expenditure of $1,600 when compared to Option One.

4.2. There are implications on community wellbeing by the issues and options that are the subject matter of this report. The addition of walking and cycling infrastructure encourages a greater uptake of walking and cycling, both for commuters and recreation.

An uptake in walking and cycling also contributes to improved health and wellbeing of members within the community.

4.3. The Management Team has reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū are not likely to be affected by, or have an interest in the subject matter of this report.

5.2. Groups and Organisations

There are groups and organisations likely to be affected by, or to have an interest in the subject matter of this report.

Consultation regarding the wider Walking and Cycling Network Plan, including Ohoka Road, was carried out in 2022, with a large proportion of respondents (82%) favouring an increase in investment from Council towards constructing walking and cycling infrastructure.

Utilising planned reseals as a mechanism to deliver some of these improvements is a low cost and effective way to contribute towards the approved plan.

5.3. Wider Community

The wider community is likely to be affected by, or to have an interest in the subject matter of this report.

The consultation carried out in 2022 was district wide and received 117 submissions. As mentioned above, a large proportion of respondents (82%) favouring an increase in investment from Council towards constructing walking and cycling infrastructure.

In regard to residents of Ohoka Road, it is proposed to include information regarding the updated line marking layout, along with the reasons for this, as part of the pre-reseal information notice.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

There are financial implications of the decisions sought by this report.

The proposed line marking plan requires additional line marking over and above the existing layout resulting in a minor increase in line marking costs of $1,600, which will be funded through the Traffic Services budget, (GL 10.270.583.2500) which has a total budget of $63,804.00.

6.2. Sustainability and Climate Change Impacts

The recommendations in this report do have sustainability and/or climate change impacts.

Creating a safe and accessible walking and cycling network, which comes with improving infrastructure, increases the uptake of these activities for both recreational and commuter users. This results in a subsequent decrease in the number of people using single occupancy vehicles, particularly for shorter trips. This comes with many benefits, including health and the reduction of greenhouse gas emissions.

6.3 Risk Management

There are risks arising from the adoption/implementation of the recommendations in this report.

Residents along the length of Ohoka Road may view the removal of the existing painted median as a negative, however the benefit of the median is limited to individual properties, rather than the wider community.

The median is 1.5m wide, and insufficient to be formally used as a vehicle refuge. Furthermore, with 7,000 vehicles per day, the traffic volumes are insufficient to justify a painted median / refuge. By way of comparison, Williams Street (north of Smith Street) has and ADT of 8,500, and Smith Street has an ADT 6,500 without the presence of painted refuges.

6.4 Health and Safety

There are health and safety risks arising from the adoption/implementation of the recommendations in this report.

Installation of on-road cycle lanes are the lowest level of service (excluding the status quo) available to people on bikes. Even so, they there is health and safety benefits associated with this by allowing people on bikes to have dedicated lanes making cyclists more predicable to motorists.

7. CONTEXT

7.1. Consistency with Policy

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. Authorising Legislation

The Local Government Act is relevant to this report.

7.3. **Consistency with Community Outcomes**

The Council's community outcomes are relevant to the actions arising from recommendations in this report.

Social

A place where everyone can have a sense of belonging…

- *Public spaces are diverse, respond to changing demographics and meet local needs for leisure and recreation.*
- *Council commits to promoting health and wellbeing and minimizing the risk of social harm to its communities.*
- *Our community has access to the knowledge and skills needed to participate fully in society and to exercise choice about how to live their lives.*

Economic

…and is supported by a resilient and innovative economy.

- *Infrastructure and services are sustainable, resilient, and affordable.*
- *Our district readily adapts to innovation and emerging technologies that support its transition to a circular economy.*

Environmental

…that values and restores our environment…

- *People are supported to participate in improving the health and sustainability of our environment.*
- *Land use is sustainable; biodiversity is protected and restored.*
- *Our district is resilient and able to quickly respond to and recover from natural disasters and the effects of climate change.*
- *Our district transitions towards a reduced carbon and waste district.*
- *The natural and built environment in which people live is clean, healthy and safe.*
- *Our communities are able to access and enjoy natural areas and public spaces.*

7.4. **Authorising Delegations**

7.4.1. The Community Boards are responsible for considering any matters of interest or concern within their ward area and making a recommendation to Council.

7.4.2. The Utilities and Roading Committee have the authority to make the decision on behalf of Council.

REV	REVISION DETAILS	DRN	CHK	APP	DATE
A	FOR INFORMATION	GK	KS	---	26/08/2025

SURVEYED			PROJECT No PD000353
DRAWN	GK	26/08/2025	CON No
DRAWING CHKD	KS	XX/08/2025	SCALE (A3) 1:1000
DESIGNED		26/08/2025	DATUM ORIGIN
DESIGNED CHKD	KS	XX/08/2025	HORIZONTAL NZTM GD2000
APPROVED	---	--/--/2020	VERTICAL

WAIMAKARIRI DISTRICT COUNCIL

PROJECT

OHOKA ROAD RESEAL

SHEET TITLE

PROPOSED LINEMARKING PLAN

FOR INFORMATION
NOT FOR CONSTRUCTION

DRAWING 4645

SHEET 01 | REVISION A

PLOT DATE: 05/09/2025 FILE: S:\PDU\PDU JOBS\PD000300-399\PD000353 - STRUCTURAL & CORRIDOR MAINTENANCE - PROFESSIONAL FEES\OHOKA ROAD RESEAL 2025.DWG

AKAROA STREET

PERAKI STREET

OHOKA ROAD

PERAKI STREET

ADD ADDITIONAL LINEMARKING WITHIN ASPHALT AREA TO FINISH TAPER AS SHOWN

REMOVE EXISTING LINEMARKING (WATERBLAST) AND MARK AS SHOWN WITHIN ASPHALT AREA

1.80

3.20

2.30 FROM FOK

2.30 FROM FOK

2.30 FROM FOK

1.80

3.20

2.30 FROM FOK

KEY

RESEAL EXTENTS

NOTES.

1. ALL LINE MARKING TO BE IN ACCORDANCE WITH WAKA KOTAHI'S TRAFFIC CONTROL DEVICES (TCD) MANUAL.
2. ALL WORKS TO BE IN ACCORDANCE WITH THE WAIMAKARIRI DISTRICT COUNCIL'S ENGINEERING CODE OF PRACTICE.

REV	REVISION DETAILS	DRN	CHK	APP	DATE
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WAIMAKARIRI DISTRICT COUNCIL

PROJECT

OHOKA ROAD RESEAL

SHEET TITLE

PROPOSED LINEMARKING PLAN

FOR INFORMATION
NOT FOR CONSTRUCTION

DRAWING 4645

SHEET 02

REVISION A

PLOT DATE: 05/09/2025 FILE: S:\PDU\PDU JOBS\PD000300-399\PD000353 - STRUCTURAL & CORRIDOR MAINTENANCE - PROFESSIONAL FEES\OHOKA ROAD RESEAL 2025.DWG

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SURVEYED			PROJECT No	PD000353
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WAIMAKARIRI DISTRICT COUNCIL

PROJECT

OHOKA ROAD RESEAL

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PROPOSED LINEMARKING PLAN

FOR INFORMATION
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DRAWING 4645

SHEET 02

REVISION A

PLOT DATE: 05/09/2025 FILE: S:\PDU\PDU JOBS\PD000300-399\PD000353 - STRUCTURAL & CORRIDOR MAINTENANCE - PROFESSIONAL FEES\OHOKA ROAD RESEAL 2025.DWG