Waimakariri District Council

Utilities and Roading Committee

Agenda

Tuesday 19 November 2024 9am

Council Chambers 215 High Street Rangiora

Members:

Cr Joan Ward (Chairperson) Cr Robbie Brine Cr Niki Mealings Cr Philip Redmond Cr Paul Williams Mayor Dan Gordon (ex officio)



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The Chairperson and Members UTILITIES AND ROADING COMMITTEE

Sarah Nichols GOVERNANCE MANAGER

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

BUSINESS

1 <u>APOLOGIES</u>

2 <u>CONFLICTS OF INTEREST</u>

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

3 CONFIRMATION OF MINUTES

3.1 <u>Minutes of the meeting of the Utilities and Roading Committee held on</u> <u>Tuesday 15 October 2024.</u>

RECOMMENDATION

THAT the Utilities and Roading Committee:

- (a) **Confirms** the circulated Minutes of the meeting of the Utilities and Roading Committee held on 15 October 2024, as a true and accurate record.
- 3.2 Matters arising (From Minutes)

RECOMMENDATION

3.3 <u>Notes of a workshop of the Utilities and Roading Committee held on</u> <u>Tuesday 15 October 2024.</u>

20-21

THAT the Utilities and Roading Committee:

(a) **Receives** the circulated Notes of a workshop of the Utilities and Roading Committee held on 15 October 2024.

4 **DEPUTATION/PRESENTATIONS**

Page No

11-19

5 <u>REPORTS</u>

5.1 <u>Taaffes Glen Road Request for Council to Maintain the Paper Road</u> <u>Section to Pinchgut Track – Carl Grabowski (Roading Operations Team</u> <u>Leader) and Joanne McBride (Roading and Transport Manager)</u>

22 - 38

RECOMMENDATION

THAT the Utilities and Roading Committee:

- (a) **Receives** Report No. 241105193133.
- (b) Approves Option three being adopted, which includes providing infrequent assistance for the residents but not taking over responsibility for maintenance of the access, and notes the likely cost would be around \$1,000 to \$2,000 every three years, which can be accommodated from within existing Road Maintenance Budgets.
- (c) **Notes** that this infrequent assistance would likely include occasional patch metalling on the road (approximately 3 yearly or following a weather event) or the provision of a small quantity of unsealed road metal for the residents to place.
- (d) **Notes** that signage will be erected before the first ford, warning of the fords ahead and recommending 4-wheel drive access beyond that point.
- (e) **Notes** that should a contribution be agreed as per the recommendations in this report, then this would be to recognise the additional users who are accessing the DoC carpark, however notes the road status would remain private access over paper road, and as such does not pose future liability to Council.

5.2 <u>Amended Roading Capital Works Programme for Approval – Kieran Straw</u> (Civil Projects Team Leader) and Joanne McBride (Roading and Transport <u>Manager)</u>

RECOMMENDATION

THAT the Utilities and Roading Committee:

- (a) **Receives** Report No. 241016179221.
- (b) **Approves** the updated 2024/25 Roading Capital Works Programme Version 03 and Indicative Three-Year Programme as per attachment i.
- (c) **Notes** that the updated programme was required to ensure that all proposed works fitted within the available budgets.
- (d) **Notes** that the key changes to the programme is a reduction in footpath renewal work.
- (e) **Circulates** this report to all Boards for their information.

39 - 51

5.3 July 2023 Flood Recover Progress update – Melanie Liu (Infrastructure Resilience Manager) and Kalley Simpson (3 Waters Manager)

52 - 68

RECOMMENDATION

THAT the Utilities and Roading Committee:

- (a) **Receives** Report No. 241031189619.
- (b) **Notes** that all 88 investigations have been completed and approved.
- (c) Notes that all 126 maintenance actions have been completed.
- (d) **Notes** that of the 24 immediate works projects, 17 projects have been completed, and 7 are in the design phase.
- (e) **Notes** that the Infrastructure Resilience Team has taken over the delivery of the remaining improvement works and the proposed future works.
- (f) **Notes** that the total cost estimate for the flood recovery work is \$4.055 million.
- (g) **Notes** that the expenditure to date is \$3,612,550 and the final forecast expenditure of \$4.113 million.
- (h) **Notes** the estimated 1.42% budget exceedance of \$57,598.
- (i) **Notes** that this budget exceedance will increase the District Drainage rate by approximately \$0.14 or 0.4% per property from 2025/26 onwards.
- (j) Notes this is the last progress update report on the July 2023 flooding event as all investigations have now been completed and approved. The remaining improvement works will be reported as part of the Capital Works Programme report presented to Audit & Risk Committee each quarter.
- (k) **Circulates** this report to all Community Boards for information.

5.4 <u>Eastern District Sewer Scheme and Oxford Sewer Scheme Annual</u> <u>Compliance Reports 2023/24 – Caroline Fahey (Water & Wastewater Asset</u> <u>Manager)</u>

69 - 166

RECOMMENDATION

THAT the Utilities and Roading Committee:

- (a) **Receives** Report No. 241104191893.
- (b) Notes that full compliance was achieved for all Eastern District Sewer Scheme (EDSS) Ocean Outfall consent conditions relating to environmental limits during the 2023-24 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 2023-24 monitoring period. There were some non-compliances relating to temporary overflow of the wet weather holding pond during the July 2023 weather event and the lack of monitoring data to clearly demonstrate that the depth limit for effluent application at the irrigation field had been achieved. 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 (ECan) are currently reviewing the Annual Compliance Monitoring Reports for the 2023-24 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, Te Kōhaka o Tūhaitara Trust and Waimakariri Water Zone Committee for their information.

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5.5 <u>Water Quality and Compliance Annual Report 2023/24 – Caroline Fahey</u> (Water & Wastewater Asset Manager)

167 - 206

RECOMMENDATION

THAT the Utilities and Roading Committee:

- (a) **Receives** Report No. 241103190628.
- (b) Notes that the assessment of the 2023-24 compliance year is based on the Drinking Water Assurance Rules (DWQAR) that came into effect in November 2022 which are much more stringent than the old Drinking Water Standards New Zealand (DWSNZ) 2005 (Revised 2018).
- (c) Notes that for the 2023-24 compliance year, all supplies that had chlorine and UV treatment installed for the entire period achieved greater than 99% compliance. The remaining supplies did not achieve full compliance mainly due to chlorination not being implemented for the entire compliance period and UV treatment not yet being installed. There were also some technical non-compliances relating to sampling and data capture issues.
- (d) **Notes** that Council's water supplies will not be fully compliant with the new DWQAR until December 2025 when the last two water supplies (West Eyreton and Ohoka) have UV treatment installed.
- (e) **Circulates** this report to the Community Boards for their information.
- (f) **Circulates** a copy of this report to Te Ngāi Tūāhuriri Rūnanga, Te Kōhaka o Tūhaitara Trust and Waimakariri Water Zone Committee for their information.

6 <u>CORRESPONDENCE</u>

6.1 Letter from Roundhill Farm regarding maintenance Taaffes Glen Road

207

RECOMMENDATION

THAT the Utilities and Roading Committee

(a) **Receives** the letter in Item 6.1.

7 PORTFOLIO UPDATES

7.1 <u>Drainage, Stockwater and Three Waters (Drinking Water, Sewer and</u> <u>Stormwater) – Councillor Paul Williams</u>

8 MATTERS REFERRED FROM COMMUNITY BOARDS

8.1 <u>Approval to install No-stopping restrictions along the frontage of</u> <u>no. 464 Mandeville Road, Mandeville – Dominic Mansbridge (Project</u> <u>Engineer) and Shane Binder (Senior Transportation Engineer)</u>

The Oxford-Ohoka Community Board considered report Trim 240802128102 at its meeting of 7 November 2024.

208 - 214

RECOMMENDATION

THAT the Utilities and Roading Committee:

- (a) **Approves** the installation of no-stopping restrictions on the northern side of Mandeville Road, for a distance of 11m east of the Mandeville Village entry and 8m west of the entry to no. 464 Mandeville Road.
- (b) **Notes** that although the Hire Centre has not yet been constructed, staff will proceed with the installation of the no-stopping lines upon acceptance of this report, in line with discussions with the adjacent landowner.
- (c) Notes that there is a resource consent application under review (RC245278) for further development of the Mandeville Village. The recommendations of this report are separate to this application and will have no bearing on its outcome.

8.2 <u>Approval of Design for 309 High Street Car Park Design – Dominic</u> <u>Mansbridge (Project Engineer) and Gina Maxwell (Project Support</u> <u>Coordinator)</u>

The Rangiora-Ashley Community Board considered report Trim 241004171746 at its meeting of 13 November 2024.

215 - 225

RECOMMENDATION

THAT the Utilities and Roading Committee:

- (a) **Approves** the Scheme Plan for the proposed car park at 309 High Street (as per attachment i).
- (b) **Approves** the establishment of an additional mobility parking space on High Street, outside the Rangiora Town Hall
- (c) **Notes** the existing mobility parking, and P5 parking spaces on High Street outside the Town Hall will remain as is.
- (d) **Notes** that the existing mobility parking within the existing Town Hall car park (accessed off King Street) will remain following the completion of the car park redevelopment.

8.3 East Belt New Footpath - Approval to Install No Stopping Restrictions and Approval for Small Portions of Hedge Removal at MainPower Oval – Srinath Srinivasan – (Project Engineer PDU Civil)) and Joanne McBride (Roading & Transportation Manager)

The Rangiora-Ashley Community Board considered report Trim 240912156263 at its meeting of 13 November 2024.

226 – 237

RECOMMENDATION

THAT the Utilities and Roading Committee:

- (a) **Approves** the installation of 64.50m no-stopping restrictions outside 164 East Belt, Rangiora, with consultation with 164 East Belt residents.
- (b) **Approves** the partial removal of the hedge along the boundary of MainPower Oval, at the locations shown within attachment (i.)
- (c) **Notes** that the partial removal of the hedge is required to allow for the installation of the proposed footpath behind the buildings at MainPower Oval.
- (d) **Notes** that where the hedge is to be removed, bollards will be installed to prevent vehicle access into MainPower Oval.
- (e) **Notes** that the installation of the parking restrictions outside No. 164 East Belt is the result of the narrow road width in this portion of East Belt, where there is insufficient width to accommodate on-road parking.
- (f) **Notes** that the Greenspaces Team have been involved in the development of the alignment through Mainpower Oval and are supportive of the partial removal of the hedge as required.

9 <u>MATTERS FOR INFORMATION</u>

10 QUESTIONS UNDER STANDING ORDERS

11 URGENT GENERAL BUSINESS

12 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:

- 11.1 Confirmation of Public Excluded Minutes from 15 October 2024.
- 11.2 Removal of Deeds Land D Young (Senior Engineering Advisor).
- 11.3 Rangiora WWTP Septage Receiving Facility Contract Award Report Report to Management Team 21 October 2024.
- 11.4 Septic Tank Maintenance Contract 2024-2027 Tender Evaluation and Contract Award Report – Report to Management Team 21 October 2024
- 11.5 Contract 20/41 School Road Drainage Upgrade Tender Evaluation and Contract Award Report – Report to Management Team 4 November 2024

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:

ltem No.	Subject	Reason for excluding the public	Grounds for excluding the public.
11.1	Confirmation of Public Excluded Minutes from 15 October 2024	Good reason to withhold exists under Section 7	As per Section 7(2)(h) of the Local Government Official Information and Meetings Act 1987, to "enable any local authority holding the information to carry on, without prejudice or disadvantage, commercial activities."
11.2	Removal of Deeds Land	Good reason to withhold exists under Section 7	Resolves that the report, attachments, discussion and minutes remain public excluded for reasons of protecting 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 as per LGOIMA Section 7 (2)(e), i.e. 'avoid prejudice to measures that prevent or mitigate material loss to members of the public'".
11.3	Rangiora WWTP Septage Receiving Facility – Contract Award Report - Report to Management Team 21 October 2024	Good reason to withhold exists under Section 7	Resolves that the recommendations in this report be made publicly available but that the contents remain public excluded as there is good reason to withhold in accordance with Section 7 (h) of the Local Government Official Information and Meetings Act; "enable any local authority holding the information to carry out, without prejudice or disadvantage, commercial activities"
11.4	Septic Tank Maintenance Contract 2024-2027 Tender Evaluation and Contract Award Report- Report to Management Team 21 October 2024	Good reason to withhold exists under Section 7	Resolves that the report, attachments, discussion and minutes remain public excluded for reasons of protecting 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 as per LGOIMA Section 7 (2)(a), (g) and (i).
11.5	Contract 20/41 School Road Drainage Upgrade Tender Evaluation and Contract Award Report – Report to Management Team 4 November 2024	Good reason to withhold exists under Section 7	Approves that the report, attachments, discussion and minutes remain public excluded for reasons of protecting 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 as per LGOIMA Section 7 (2)(a), (g) and (i). Approves the recommendations becoming public, however the report, discussion, minutes and attachments remain public excluded.

CLOSED MEETING

See Public Excluded Agenda (separate document)

OPEN MEETING

NEXT MEETING

The next meeting of the Utilities and Roading Committee will be held on Tuesday 10 December 2024 at 1pm.

MINUTES OF A MEETING OF THE UTILITIES AND ROADING COMMITTEE HELD IN THE COUNCIL CHAMBER, RANGIORA SERVICE CENTRE, 215 HIGH STREET, RANGIORA ON TUESDAY, 15 OCTOBER 2024, AT 9AM.

PRESENT

Councillors P Williams (Chairperson), N Mealings, P Redmond, J Ward and Mayor Gordon

IN ATTENDANCE

Councillor B Cairns

G Cleary (Utilities and Roading Manager), K Simpson (3 Waters Manager), J McBride (Roading and Transportation Manager), D Young (Senior Engineering Advisor), J Recker (Stormwater and Waterways Manager), M Liu (Infrastructure Resilience Manager), P Towse (Senior Infrastructure Resilience Engineer), B Strickland (Senior Infrastructure Resilience Engineer), E Glendinning (Infrastructure Resilience Administrator), K Waghorn (Solid Waste Asset Manager), C Roxburgh (Project Delivery Manager) P Daly (Journey Planner/Road Safety Coordinator) and E Stubbs (Governance Support Officer)

One member of the public was present.

1 <u>APOLOGIES</u>

Moved: Councillor Mealings

Seconded: Councillor Ward

THAT an apology for absence be received and sustained from Councillor Brine.

CARRIED

2 <u>CONFLICTS OF INTEREST</u>

There were no conflicts of interest declared.

3 CONFIRMATION OF MINUTES

3.1 <u>Minutes of the meeting of the Utilities and Roading Committee held on</u> <u>Tuesday 20 August 2024.</u>

Moved: Mayor Gordon

Seconded: Councillor Redmond

THAT the Utilities and Roading Committee:

(a) **Confirms** the circulated Minutes of the meeting of the Utilities and Roading Committee held on 20 August 2024, with a correction to item 5.1 - the ocean outfall consent expires in 2035, as a true and accurate record.

CARRIED

3.2 Matters arising (From Minutes)

There were no matters arising.

3.3 <u>Notes of a workshop of the Utilities and Roading Committee held on</u> <u>Tuesday 20 August 2024.</u>

Moved: Councillor Redmond Seconded: Councillor Ward

THAT the Utilities and Roading Committee:

(a) **Receives** the circulated Notes of a workshop of the Utilities and Roading Committee held on 20 August 2024.

CARRIED

4 **DEPUTATION/PRESENTATIONS**

There were no deputations or presentations

5 <u>REPORTS</u>

5.1 July 2023 Flood Recovery Progress Update – J Recker (Stormwater and Waterways Manager), K Simpson (3 Waters Manager), J McBride (Roading and Transport Manager) and P Towse (Flood Team Lead)

K Simpson introduced the new Infrastructure Resilience Team; Melanie Liu, Bertie Strickland, Pat Towse and Elise Glendinning.

K Simpson advised the report provided an update following the July 2023 flood event. The final five investigations were in the approval stage, and it was hoped they would be signed off by the end of October 2024. Fifteen of the 24 immediate works projects had been completed and seven were in the design phase with the Upper Sefton Road project going out to tender the following week.

The work was now projected to run over budget by \$77,000 or 1.9% of the total budget which had been approved in October 2023. K Simpson noted that the flood response investigations appeared to be overbudget due to some inconsistency in coding of the budget.

There were no questions from Councillors.

Moved: Councillor Ward

Seconded: Councillor Mealings

THAT the Utilities and Roading Committee:

- (a) **Receives** Report No. 240906151625.
- (b) **Notes** that all 88 investigations have been triaged, scoped, and investigated, 5 are in the final approval stage and 83 are complete.
- (c) Notes that all 126 maintenance actions have been completed.
- (d) **Notes** that of the 24 immediate works projects, 15 projects have been completed, 2 are currently under construction, 7 are in the design phase.
- (e) **Notes** that the Infrastructure Resilience Team will take over the delivery of the remaining improvements works and implementing proposed future works.
- (f) **Notes** that the total cost estimate for the flood recovery work is \$4.055 million.
- (g) **Notes** that the expenditure to date is \$3,519,974 and the final forecast expenditure of \$4.133 million.
- (h) **Notes** the estimated 1.9% budget exceedance of \$77,697.
- (i) **Notes** that this budget exceedance will increase the District Drainage rate by approximately \$0.19 or 0.5% per property from 2025/26 onwards.

CARRIED

Councillor Ward welcomed the new flood resilience team and looked forward to working with them.

Councillor Mealings commented that it was good to have the team in place, however she hoped they would not need to respond to an event anytime soon. She congratulated staff for getting to the bottom of a large list of investigations and projects.

Mayor Gordon endorsed the comments of his colleagues and welcomed the team. It was a critical piece of work and where the community had huge expectation to respond to a range of flooding events and historical issues. He acknowledged the work of J Recker and K Simpson and commented on the good feedback he had received from their engagement with the community. He thanked G Cleary for the development of the team noting that this work had needed to become business as usual. He commented on the importance of engagement and having the public alongside, as everyone had an opinion on drainage especially when their property was potentially at risk.

Councillor Williams endorsed the comments of his colleagues and looked forward to working with the team.

6 <u>CORRESPONDENCE</u>

Nil.

7 PORTFOLIO UPDATES

7.1 Roading – Councillor Philip Redmond

Focus areas for staff:

- Work was continuing to finalise the reseal programme for 2024/25 and complete reseal repairs. Resealing was likely to begin late October / early November 2024.
- Digout repairs had been underway around the district to address pavement failures.
- The pavement rehabilitation programme started this month with work on Tram Road this week. Tram Road would be closed between Earlys Road and Tallotts Road with a detour in place via Woodfields Road. The road would be open to westbound traffic only overnight and weekends, with a reduced speed limit in place.
- High shoulder removal work had been undertaken on Carrs and Dixons Road.
- Crack sealing works were planned on Lineside and Southbrook Roads to keep the pavement waterproof. This would be done as night works between 10pm and 5am later during the month.

Capital:

- Design for capital projects for the 2024/25 financial year was continuing.
- A revised programme of kerb and channel and footpath renewals had been prepared due to reduced funding from the National Long Term Plan (NLTP).
- Tender had closed for the Ellis Road Seal Extension, and it was hoped the contract would be awarded this week.

Other works:

- Work was continuing installing services along Blackett Street through to the Ashley Street roundabout. Nighttime closures of the Ashley Street / Blackett Street roundabout had been occurring to allow the trenching work to continue across the intersection. The intersection was open during the day.
- Work to install a new main across East Belt was carried out during this month, with the work being carried out during the school holidays to ensure impacts were minimised.
- The road tie-in to Todds Road outside the Sutton Tools development was planned for the 21st to 25th October 2024. During this period the road would be limited to one-way south bound only.

Events:

• Rangiora A&P Show was to be held on the 25th and 26th October 2024 (Labour Weekend).

Road Safety:

- The Kick Start Motorcycle Event (an annual collaboration between Christchurch City Council, Selwyn District Council and Waimakariri District Council) was held on the 22 September 2024 and was well attended. There were several different exhibitors including training providers at the event.
- There was one fatal crash (Depot Road) and one reported serious crash (Mulcocks Road / Lineside Road) over the last two weeks.

Funding:

• Funding had been approved for resilience improvements for Lees Valley. The funding approval was a total of \$1.78M, with \$1.116M to be spent within the 2024-27 NLTP period. This was for culverts, willow walls and the replacement of the Bypass Bridge. Approval of a programme of works would be required from NZTA to unlock this funding.

Councillor Mealings noted she had received an email regarding repair locations on Tram and Tallotts Roads. J McBride would follow up.

7.2 <u>Drainage, Stockwater and Three Waters (Drinking Water, Sewer and Stormwater) – Councillor Paul Williams</u>

Water

- The UV installation works were on track for completion in November 2024. The UV units at the Pegasus and Domain Road Water Treatment Plant were now operational. The South Belt, Peraki and Darnley Square UV installations would be operational over the next six weeks.
- The tender for the West Eyreton UV installation and the Two Chain Road third well drilling had recently gone out to market.
- The works to install the 450mm water main in Blackett Street was going well. The section in the Ashley Street / Blackett Street roundabout was currently being installed at night. The works to install the remaining sections would be ongoing until early December 2024. Staff had been working closely with business owners to keep them informed of the works and to minimise disruption.

Wastewater

- Recently had the first occurrence of midges at Woodend and Kaiapoi Wastewater Treatment Plants of the season. Staff had initiated the midge management plans, including midge trapping and spraying.
- The septage disposal facility tender had closed and would be awarded shortly, with construction works commencing later this calendar year.
- The Raven Quay works covering wastewater, water and stormwater pipe upgrades had recently been tendered and was due to start construction in the new year.

<u>Drainage</u>

- Cones Road Drain Upgrade was complete, and staff were monitoring the vegetation establishment and would assess whether additional weir modifications were warranted. There had been a lot of feedback from local residents who were happy with the upgrade.
- Drainage improvement works were underway across the district at Tram Road and Topito Road. The works at Washington Place, Woodfields Road and Greens Road division were now complete.
- The first round of Drainage Advisory Group meetings were progressing well.

Mayor Gordon asked about what had been sprayed on the batters of the Cones Road drain and whether it was an appropriate material considering ongoing maintenance of the drain. K Simpson agreed that maintenance was key as the banks were relatively steep. Staff wished to maintain vegetation rather than spray the banks. Matting had been applied followed by hydroseeding to provide stabilisation with vegetation. The main concern from a drainage point of view was growth of vegetation on the base of the drain rather than the banks.

Mayor Gordon asked whether there was funding for an improved level of service for the drain, as following the work there was now an expectation from the community that it would be kept maintained and look smart. Councillor Williams further asked about the use of tractor attachments that would allow for angled mowing to keep road verges tidier. An example of where it may be useful was Flaxton Road following the tree removal. J McBride explained that roads had different requirements in terms of mowing. Generally rural, sealed roads were mowed 1.5m back from edge of seal, in towns the full width of berm was mowed to provide a higher amenity. Increased amenity mowing would come at an increased cost which would need Council approval.

7.3 Solid Waste– Councillor Robbie Brine

Councillor Brine was not in attendance to present his report.

7.4 Transport – Mayor Dan Gordon

Mayor Gordon advised that Simon Bridges the new Chair of NZTA had visited the district and had been on a tour to view roading matters including Skewbridge Road, Lineside Road, Tuahiwi crossroads, and Pegasus/ Ravenswood/ Woodend roundabout. Also attending were James Caygill (Director Regional Relationships NZTA) of and Christchurch Mayor Phil Mauger. During the visit they had discussed the appropriateness of tolling which would be a new concept for the district. Simon Bridges had been provided a document prepared by staff highlighting the importance of roading and transport investment to the district. The visit had been followed by the Mayoral Forum which also discussed the importance of investment. He noted that the district would be keen to be part of trialling options, for example around mass rapid transit. There had been good discussion, and it was important to keep the district at the forefront of decision making.

Mayor Gordon advised he had attended a meeting with the Ashley-Rakahuri Rivercare Group, the Police, Environment Canterbury, the Department of Conservation and 4-Wheel drive groups regarding the issue of 4-wheel drives in the river and the impact they were having. There was a need to work together to find a solution. He noted that crate day had been shifted to February.

G Cleary advised that the Infrastructure Commission had advised of the priority programme and staff were in the process of putting together a proposal for the Eastern Link route to be part of the National Infrastructure Plan. While it may not mean funding would be secured, it was beneficial in building a solid case. A further update would be provided. Mayor Gordon endorsed G Cleary's comments and thanked staff for their proactiveness in this area.

8 MATTERS REFERRED FROM COMMUNITY BOARDS

8.1 <u>The Oaks, Kaiapoi - Request for No Stopping Lines – P Daly, Road Safety</u> <u>Coordinator/Journey Planner and J McBride (Roading and Transport</u> <u>Manager)</u>

J McBride introduced the report noting that it had been approved at the Kaiapoi-Tuahiwi Community Board the previous day. She would take the report as read.

There were no questions from Councillors.

Moved: Councillor Mealings Seconded: Councillor Williams

THAT the Utilities and Roading Committee:

- (a) **Approves** the installation of 16 metres of 'No Stopping' lines at the dead end of the formed road of The Oaks, Kaiapoi, per Figure 3 of the report.
- (b) **Notes** the cost of approving this request is estimated at less than \$10.00, which will be funded from existing maintenance budgets. The work will be scheduled to coincide with other marking jobs in that area to minimise the cost of installation.

CARRIED

N Mealings commented that it was an easy, low cost, commonsense fix to a problem.

P Williams agreed the solution was sensible.

Mayor Gordon believed it was a good solution and commented on the good feedback he received of P Daly's work on road safety in the community.

8.2 <u>Bob Robertson Drive Proposed Bus Stop Facility – P Daly, Road Safety</u> <u>Coordinator/Journey Planner and J McBride (Roading and Transport</u> <u>Manager)</u>

J McBride acknowledged the work that P Daly had completed with Environment Canterbury (ECan) to get the new bus stop over the line. It had been unanimously supported at the Woodend-Sefton Community Board who had been requesting the change to the bus route for some time.

She noted the cost to install was an estimate, and three formal prices would be sort. The location was in the designated area and staff would seek confirmation with NZTA before installing, however there were other stops within the designated area and staff did not believe there would be an issue. The next step was for ECan to alter the bus route.

Moved: Councillor Redmond

Seconded: Councillor Ward

THAT the Utilities and Roading Committee:

- (a) **Approves** the installation of a bus stop facility on Bob Robertson Drive between SH1 and Garlick Street, as per Figure 4 in the report.
- (b) **Notes** that the cost of installation is estimated to be \$5,800, to be funded from the minor safety budget.
- (c) Notes that staff will continue to work with NZTA and Environment Canterbury on consideration for future bus services and supporting infrastructure.

CARRIED

Councillor Redmond believed it was a good decision to improve road safety by limiting the need for pedestrians to cross SH1 at the Pegasus roundabout.

Mayor Gordon left at 9.40am during Item 8.2

9 MATTERS FOR INFORMATION

9.1 Subdivision Contribution Programme for 2024/25 and Approval of Ellis Road Seal Extension – J McBride (Roading & Transport Manager) and K Straw (Civil Projects Team Leader) (Report No. 240717116901 to Council Meeting 3 September 2024)

9.2 Approval to Enter into Agreement with Auto Stewardship New Zealand for Removal of Tyres Under the Tyrewise Product Stewardship Scheme – K Waghorn (Solid Waste Asset Manager)

(Report No. 240903149394 to MTO Meeting 9 September 2024)

Moved: Councillor Redmond

Seconded: Councillor Mealings

THAT the Utilities and Roading Committee

(a) **Receives** the information in Items 9.1-9.2.

CARRIED

10 QUESTIONS UNDER STANDING ORDERS

Nil.

11 URGENT GENERAL BUSINESS

Nil.

12 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:

Moved: Councillor Ward Seconded: Councillor Redmond

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

- 11.1 Confirmation of Public Excluded Minutes from 20 August 2024.
- 11.2 Contract 24-57 Rangiora Eastern Link and Skewbridge Programme Manager – Proposal Evaluation and Contract Award Report - Report to Management Team Operations 9 September 2024.
- 11.3 Land Purchase for new gravel quarry Report to Council 1 October 2024.
- 11.4 Procurement of Ocean Outfall Maintenance Services Report to Management Team 7 October 2024

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:

ltem No.	Subject	Reason for excluding the public	Grounds for excluding the public.
11.1	Confirmation of Public Excluded Minutes from 20 August 2024	Good reason to withhold exists under Section 7	As per Section 7(2)(h) of the Local Government Official Information and Meetings Act 1987, to "enable any local authority holding the information to carry on, without prejudice or disadvantage, commercial activities."
11.2	Contract 24-57 Rangiora Eastern Link and Skewbridge Programme Manager – Proposal Evaluation and Contract Award Report – Report to Management Team Operations 9 September 2024	Good reason to withhold exists under Section 7	Resolves that the report, attachments, discussion and minutes remain public excluded for reasons of protecting 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 as per LGOIMA Section 7 (2)(h)
11.3	Land purchase for new gravel quarry - Report to Council 1 October 2024	Good reason to withhold exists under Section 7	Resolves that the report, attachments, discussion and minutes remain public excluded for reasons of protecting 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 as per LGOIMA Section 7 (2)(a), (g) and (i)".
11.4	Procurement of Ocean Outfall Maintenance Services	Good reason to withhold exists under Section 7	Resolves that the recommendations in this report be made publicly available but that the contents remain public excluded as there is good reason to withhold in accordance with Section 7(2)(h) of the Local Government Information and Meetings Act: "enable any local authority holding the information to carry out, without prejudice or disadvantage, commercial activities".

CARRIED

CLOSED MEETING

The public excluded portion of the meeting commenced at 9.42am until 9.45am.

OPEN MEETING

Moved: Councillor Redmond

Seconded: Councillor Mealings

THAT open meeting resumes, and the business discussed with the public excluded remains public excluded unless otherwise resolved in the individual resolutions.

CARRIED

NEXT MEETING

The next meeting of the Utilities and Roading Committee will be held on Tuesday 19 November 2024 at 9am.

THERE BEING NO FURTHER BUSINESS, THE MEETING CLOSED AT 9.47AM.

Chairperson

Date

NOTES OF A WORKSHOP OF THE UTILITIES AND ROADING COMMITTEE HELD IN THE COUNCIL CHAMBERS, HIGH STREET, RANGIORA ON TUESDAY, 15 OCTOBER 2024, COMMENCING AT 9.50AM.

PRESENT

Councillor P Williams (Chairperson), Councillors N Mealings, P Redmond and J Ward.

IN ATTENDANCE

Councillor B Cairns

G Cleary (Utilities and Roading Manager), J McBride (Roading and Transportation Manager), C Roxburgh (Project Delivery Manager) and E Stubbs (Governance Support Officer)

1. APOLOGIES

Moved: Councillor Mealings Seconded: Councillor Ward

THAT an apology for absence be received and sustained from Councillor Brine.

CARRIED

1. <u>Kippenberger Underpass</u>

Presenter(s): J McBride (Roading and Transportation Manager) and C Roxburgh (Project Delivery Manager)

Trim ref: 241030188057

Key Points:

- The underpass was located on Kippenberger Avenue near the Devlin Road intersection.
- Staff investigated options for the underpass (built in 2014) following land use change and the Bellgrove development.
- Structural investigations showed that the underpass was structurally sound.
- The condition inside the underpass was not good, it leaked, and water was present even when pumping. Repairs had been carried out on the leaks which had helped, but had not resolved the issue. It was made more difficult due to the high groundwater table in that location.
- Without pumping groundwater filled the underpass, and for it to be used would require constant pumping and a back up pump. This created a risk if it was made a public facility.
- The height of the underpass was 1.98m and guidance for cycleways/walkways was for a 2.5m height.
- Staff presented images of the problems.
- Staff believed the best option was to decommission the underpass
- The next step would be a report to the Rangiora-Ashley Community Board in November 2024 based on feedback.

Questions/ Issues/ Observations:

• Could the compaction and decommissioning be made safe considering effect of high groundwater, earthquake hazard and concrete cancer?

Staff had discussed decommissioning process with Aurecon and WSP. Their advice had been that backfill could be brought up in layers and were comfortable a good level of compaction could be achieved with pea metal.

- Was there potential to use the underpass for infrastructure in the future such as sewer pipes? Aurecon was currently designing a sewer rising main for that area and were aware of the underpass location. While the underpass could provide an initial saving for installation, any potential future repairs would be more difficult and costly. Trenching through a road was a conventional approach.
- Could grills be placed on the ends of the underpass and otherwise left as is? The photos showed why this was not possible. The access filled with water and there would be a need to manage that for the public. Currently there was temporary fencing to make the location safe, however that was not a long-term solution. In addition to safety, the stagnant water would reduce amenity and encourage mosquitos.

THERE BEING NO FURTHER BUSINESS THE WORKSHOP CONCLUDED AT 10.15AM.

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-07-01, GOV-01-06 / 241105193133		
REPORT TO:	UTILITIES & ROADING COMMITTEE		
DATE OF MEETING:	19 November 2024		
AUTHOR(S):	Carl Grabowski, Roading Operations Team Leader		
	Joanne McBride, Roading & Transport Manager		
SUBJECT:	Taaffes Glen Road - Request for Council to Maintain the Paper Road Section to Pinchgut Track		
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager Chief Executive		

1. <u>SUMMARY</u>

- 1.1. This report:
 - 1.1.1. Provides information following a submission requesting Council to consider maintaining an additional 520m length of Taaffes Glen Road, which is a private access on a paper road.
 - 1.1.2. Outlines current maintenance responsibilities.
- 1.2. Waimakariri District Council (WDC) has responsibility for road maintenance of Taaffes Glen Road, which is unsealed, from the Loburn Whiterock Road / Quarry Road intersection to Chainage 5486, which is just north of the Fox Creek ford.
- 1.3. In October 2022, following requests for additional maintenance, it was agreed to extend maintenance for an additional 350 metres along Taaffes Glen Road, up to the entrance to the cattle yards and Okuku Range Forest at Chainage 5836 (refer figure 2 below). Beyond this point there are two land holdings, one residential and the remainder is DoC land.
- 1.4. Beyond this point (Chainage 5836), Council does not undertake maintenance activities, and the current access is considered to be a private access track over a paper road.
- 1.5. Private accesses are often formed to a lower standard than a public road, and normally serve up to six (6) properties. Private accesses are maintained by those who utilise the track to gain access to their properties, and Council has no obligation to maintain these.
- 1.6. In February 2023, a deputation was presented to the Utilities & Roading Committee, seeking to further extend the maintenance area by an additional 520m along the private access track from the cattle yards to the Department of Conservation (DoC) Pinchgut Track entrance.
- 1.7. Traffic volumes on Taaffes Glen Road are low, varying from 51 vehicles per day (where it joins Loburn Whiterock Road / Quarry Road), reducing to an estimated 18 vehicles per day above Fox Creek (this is the section where maintenance has been requested).
- 1.8. Staff have assessed the additional section requested and determined the condition to be fair to poor. The terrain is overgrown, steep and uneven, and includes a scoured ford, as

well as an existing under-slip on the steep bank down to the river on the west side of the access track.

- 1.9. The estimated cost to bring the road up to a basic standard is in the order of approximately \$16,000 for initial repairs (remetalling, ford repairs and a retaining wall at the existing under-slip), with ongoing grading maintenance costs estimated to be approximately \$600 per annum.
- 1.10. Beyond general maintenance, there will be ongoing maintenance costs which are likely to occur including, periodic remetalling, slip repairs (one identified at this time) due to the challenging terrain, and rockfall clearing following severe weather events. These would all be over and above the estimates included above.
- 1.11. As well as property owners accessing along this private access, it is also used by the general public to access the informal parking areas for the start point of the DoC owned Pinchgut Track. The track is not signed at the turn off from Loburn Whiterock Rd, however is shown on the DoC website.
- 1.12. DoC officials were approached to consider taking responsibility for maintenance of that section of road, but they were unable to allocate any funding toward a paper road.
- 1.13. Three options have been considered in relation to future maintenance of the road, with this report recommending consideration be given to providing infrequent assistance for the residents but not taking over responsibility for maintenance of the access. This infrequent assistance could include occasional patch metalling on the road (3 yearly or following a weather event) or the provision of some unsealed road metal. The likely cost would be around \$1,000 to \$2,000 every three years.

Attachments:

- i. Presentation to the Utilities & Roading Committee 21 February 2023 regarding Taaffes Glen Road (TRIM No. 241106196867).
- ii. Email request for maintenance assistance to Department of Conservation, dated 19/20 October 2021 (TRIM No. 241106196868).

2. <u>RECOMMENDATION</u>

THAT the Utilities & Roading Committee:

- (a) **Receives** Report No. 241105193133.
- (b) Approves Option three being adopted, which includes providing infrequent assistance for the residents but not taking over responsibility for maintenance of the access, and notes the likely cost would be around \$1,000 to \$2,000 every three years, which can be accommodated from within existing Road Maintenance Budgets.
- (c) **Notes** that this infrequent assistance would likely include occasional patch metalling on the road (approximately 3 yearly or following a weather event) or the provision of a small quantity of unsealed road metal for the residents to place.
- (d) **Notes** that signage will be erected before the first ford, warning of the fords ahead and recommending 4-wheel drive access beyond that point.
- (e) Notes that should a contribution be agreed as per the recommendations in this report, then this would be to recognise the additional users who are accessing the DoC carpark, however notes the road status would remain private access over paper road, and as such does not pose future liability to Council.

3. BACKGROUND

3.1. Waimakariri District Council has for many years, maintained Taaffes Glen Road from the start of the road where it intersects with Loburn Whiterock Road and Quarry Road, up to a point just north of Fox Creek Ford (Chainage 5486), as shown in orange in figure 1 below, as part of the unsealed road network.



Figure 1: Locality Plan of the full length of Taaffes Glen Road with area of additional maintenance requested shown in green.

3.2. In October 2022, following requests for an extended area of maintenance, it was agreed to extend the grading area by an additional 350 metres, up to the entrance to the cattle yards and Okuku Range Forest, located at no. 552 and no. 560 Taaffes Glen Road respectively (see figure 2 below).



Figure 2: Detail of sections on Taaffes Glen Road

- 3.3. Beyond this point (shown in green) the formed track provides access to one private property and the Department of Conservation land, which has historically been considered private and has been maintained by the private property owners.
- 3.4. Further meetings and discussions were held between WDC Roading staff and residents, regarding a request to extend the maintained section for an additional 520m (approximate) to the entrance of the Pinchgut Track (refer to the green area shown in Figure 2 above). This has historically not been maintained by Council.
- 3.5. Taaffes Glen Road is an unsealed road which carries very low volumes of traffic. The last traffic count carried out on Taaffes Glen Road was in 2020 and recorded an average daily traffic volume at a location 400m from the intersection of Loburn Whiterock Road, as 51 vehicles per day. The first 2km generates the majority of the traffic on the road, as this is where most of the farming activities occur.
- 3.6. Staff have assessed Taaffes Glen Road and determined the condition of the Council maintained section to be generally good. The road has recently been metalled apart from the last 200m. Further metalling is planned on this last 200m section, with grading to follow.
- 3.7. The road has a grading frequency of 12 times a year for the first 1.8km, with the remainder being 6 times per year due to the low traffic volumes.
- 3.8. In regard to the section which Council does not maintain, the first section is in fair condition, however the second portion is considered to be poor.
- 3.9. The second half of the section that is not maintained is a narrow track through a cutting, with a steep drop-off to the river below on the western side, and rocky cliff faces cut into the hillside on the eastern side. The terrain is overgrown, steep and uneven, made worse by a scoured ford at the bottom of the first hill, as well as an existing under-slip on the steep bank down to the river. The condition of this section is considered to be poor and would require significant work should the Council take over the maintenance.
- 3.10. Rough order costs have been calculated for bringing the unmaintained section up to a minimum standard, and are in the order of approximately \$16,000, (i.e. grading preparation

and remetalling \$4,500, ford repairs \$1,500, and an iron post and timber rail retaining wall at the existing under-slip estimated at \$10,000). Ongoing grader maintenance costs have been estimated at approximately \$600 per annum (nominal 2 grades per year).

- 3.11. It is noted that there will be ongoing maintenance costs such as periodic remetalling and drainage maintenance.
- 3.12. In addition, there is a significant risk of further work being required, such as slip repairs and rockfall clearing following any severe weather events, due to the challenging nature of the terrain. There has been no estimate included for this, as the quantum of these needs is currently unknown, however this remains a risk should Council agree to take over maintenance of this road.
- 3.13. The Average Annual Daily Traffic (AADT) count on the last 2km section of Taaffes Glen Road is estimated to be around 18 vehicles per day, with 10% being heavy vehicles. Apart from vehicle and trucking activities undertaken by the property, it is also used by the general public to access the informal parking areas for the start point of the Department of Conservation (DoC) managed "Pinchgut Track".
- 3.14. DoC officials were approached in October 2021 to consider taking responsibility for maintenance of the un-maintained section of the road, based on the evidence provided by residents that most vehicles using this section were accessing the Pinchgut Track. DoC officials were not willing to contribute due to the access being located within Road Reserve. A copy of the correspondence is attached to this report.
- 3.15. DoC officials were approached again in November 2024, however no response has been received at the time of writing this report.
- 3.16. The current condition of road sections are as follows:
 - a) First 2.5 kilometres (Council maintained) Loburn Whiterock Road intersection to southern property boundary of no. 260) good condition. Refer photos below.



a) The second 2.5 kilometres (Council maintained) - Northern property boundary of no. 260 (ford) to north side of Fox Creek ford (original extent of maintenance at CH5486) - good condition. Refer photos below.



 b) Next 350 metres (previously agreed extended area of Council maintenance) -North side of Fox Creek ford (CH5486) to gated access to the cattle yards and Okuku Range Forest (CH5836) - First 250m - fair condition. Refer photos below.



c) The last 100 metres of the previously agreed extended area of Council maintenance does require remetalling. There is also a short section that has a steep drop down to the river adjacent to the road edge, with a small under-slip has recently been identified for repair.



Photos - Taaffes Glen Road - section requiring remetalling (left) and small under-slip (right)

d) Last 520 metres - Un-maintained section (private access on paper road), north of the gated access to the cattle yards and Okuku Range Forest and up to the informal Pinchgut Track entrance - fair to poor condition. Refer photos below.



Photos - Taaffes Glen Road - #560 gated access (new end of maintenance) to #565 gated access

It is noted that the last 350m section of the access is a narrow track through a cutting, with a steep drop-off to the river below on the western side, and rocky cliff faces cut into the hillside on the eastern side. The terrain is overgrown, steep and uneven, and includes a ford at the bottom of the first hill, as well as an existing under-slip on the steep bank down to the river.

- 3.17. The estimated costs for maintenance requirements for the last 520m unmaintained section, for bringing the existing track up to a manageable unsealed road standard, and ongoing maintenance are as follows:
 - Grading surface preparation prior to remetalling, including removal of grass strip in centre of track approximately \$1,000
 - Remetalling approximately \$3,500
 - Ford repairs (scour) approximately \$1,500
 - Iron post / timber rail retaining wall at existing under-slip approximately \$10,000
 - Ongoing grader maintenance costs estimated at \$600 p.a. (2 grades per annum)
 - Ongoing maintenance costs would include periodic remetalling, further slip repairs and rockfall clearing following any severe weather events. There is a significant risk of this due to the challenging terrain in this area.
- 3.18. Vegetation control along the un-maintained section:

As per the Canterbury Regional Pest Management Plan, within the Waimakariri District, the responsibility for management of Gorse and Broom sits with the adjacent land occupier. The resident has advised WDC Roading staff that they will be undertaking gorse and broom spraying along the un-maintained section, prior to commencing stock movement activities for winter.



Photos - Overgrown gorse and broom at various locations along unmaintained section

3.19. Pinchgut Track access and informal parking:

DoC officials were approached in October 2021 to consider taking responsibility for maintenance of the paper road section, based on information provided by residents which noted that the majority of the traffic travels past the Council maintained section, continuing to the confluence of Roundhill Stream and the Okuku River. Residents also noted access to recreational opportunities including:

- Cyclists biking to the end of Taaffes Glen Road.
- Walkers, trampers, hunters and Department of Conservation staff accessing the Pinchgut Hut Track and Mount Thomas Forest Conservation Area
- Families and young people using the swimming holes and / or camping at the confluence of Roundhill Stream and Okuku River
- Walking and Riding groups that have been given permission to walk / ride on the local farm.

These recreational opportunities are noted on the Department of Conservation | Te Papa Atawhai website.



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Photos - Taaffes Glen Road - Pinchgut Track access and informal parking

DoC officials advised that they were unable to contribute to maintenance costs due to the road being owned by WDC. DoC officials were approached again in November 2024, but staff have been unable to get a response to date.

4. ISSUES AND OPTIONS

- 4.1. Private accesses are often formed to a lower standard than a public road, and normally serve up to six (6) properties. Private accesses are maintained by those who utilise the track to gain access to their properties, and Council is under no obligation to maintain these.
- 4.2. The following options are available to the Utilities & Roading Committee:
- 4.3. Option 1: Approve the request and extend the area of maintenance.

This option would include making improvements to the private access on paper road and taking over the maintenance of the last 520m of this private access to no. 565 Taaffes Glen Road. Estimated cost to bring the road up to basic standard is approximately \$16,000 for initial repairs, with ongoing grading maintenance costs estimated to be approximately \$600 per year. This is <u>not</u> the recommended option.

4.4. Option 2: Decline the request to extend the area of maintenance

This option would include declining the request to further extend the maintenance on Taaffes Glen Road for the additional 520m. This not the recommended option, as it is acknowledged that there are recreational activities in the area related to the DoC land which benefits people in our wider district, and as such there are other users of this private access.

4.5. Option 3: Agree to provide minimal assistance

This option allows for some infrequent assistance for the residents but would not result in Council maintaining the access. This infrequent assistance could include occasional patch metalling on the road (3 yearly or following a weather event) or the provision some unsealed road metal. The likely cost would be around \$1,000 to \$2,000.

- 4.6. Irrespective of the outcome, staff will continue to engage with DoC on the issue of maintenance and to seek their support for maintenance in this area.
- 4.7. The Management Team has reviewed this report and support the recommendations.

5. <u>COMMUNITY VIEWS</u>

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. This would include the residents who access their properties along the road, and recreational users of the area.

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.

Extending the maintenance length of Taaffes Glen Road would incur additional costs which have not been allowed for in the current budgets. This would impact budgets relating to the maintenance of Unsealed Roads and Remetalling.

6.2. Sustainability and Climate Change Impacts

The recommendations in this report do not have sustainability and/or climate change impacts.

6.3. Risk Management

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

The additional 520m length of private access which residents have requested that Council maintain includes a 350m section where the access is a narrow track through a cutting, with a steep drop-off to the river below on the western side, and rocky cliff faces cut into the hillside on the eastern side. The terrain is overgrown, steep and uneven, and includes a ford at the bottom of the first hill, as well as an existing under-slip on the steep bank down to the river.

This area is at increased risk of damage due to the challenging terrain and is likely to incur ongoing costs from maintenance and is at a higher risk of damage during an event. Should Council agree to maintain this access, then it would also carry the risk of future damage.

It is also noted that Council is not obligated to provide vehicle access along a paper road. Members of the public have a right to pass and repass over Unformed Legal Roads without being obstructed or hindered (e.g. gates / fences / hedges) however there is no requirements for Council to form the road, or guarantee that the terrain allows for vehicular use. Paper roads are often indistinguishable from adjoining land, some with no gravelling, metalling, sealing or permanent surfacing. Some were formed in the past but are no longer maintained by the responsible territorial authority and have reverted to nature.

6.4. Health and Safety

There are two fords on the road and the surrounding terrain is challenging in nature. As such it is considered appropriate to erect signage at the first ford, noting the presence of the fords and recommending 4-wheel drive vehicles beyond that point. This would prewarn drivers and can be located in a place that allows for someone to turn around prior to the fords.

7. <u>CONTEXT</u>

7.1. **Consistency with Policy**

This matter is a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. Authorising Legislation

Not applicable

7.3. **Consistency with Community Outcomes**

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

The relevant community outcomes are:

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:

...that values and restores our environment...

- Our district is resilient and able to quickly respond to and recover from natural disasters and the effects of climate change.
- The natural and built environment in which people live is clean, healthy and safe.

Economic:

...and is supported by a resilient and innovative economy.

• Infrastructure and services are sustainable, resilient, and affordable.

7.4. Authorising Delegations

The Utilities and Roading Committee has the delegation to receive and approve the recommendations of this report.

Submission to Waimakariri District Council on the Roading Activity Management Plan



Submission Details

That the Waimakariri District Council recognise the importance to ratepayers of access to properties located at the end of Taaffes Glen Road and the Okuku River (and Mount Thomas Forest Conservation Area) by extending their responsibility for the maintenance of Taaffes Glen Roads to GR 43°8'24.28"S 172°23'9.51"E i.e. extend their **metalled road maintenance programme** by 0.4kilometres.



Note:

- Prior to 2021 the Council had contracted CORDE to maintain Taaffes Glen Road (an unsealed road) up to Fox Creek. It appears that Taaffes Glen Road is regularly graded up to the end of Fonterra's run (289 Taaffes Glen Road).
- Carl Grabowski, Roading Operations Team Leader, Waimakariri District Council told us on 11 October 2022 that the Council was extending their maintenance of Taaffes Glen road to the entrance to Okuku Range Forest (561 Taaffes Glen road)
- Approx 0.35 kilometres beyond the entranceway to 561 Taaffes Glen Road is the entrance to Plnchgut Track (and Mount Thomas Forest Conservation area),



The three parking areas in the immediate area - two in the beech forest before the Department of Conservation sign at the entrance to Pinchgut Track and one in the beech forest above the confluence of Round Hill Stream are regularly used by members of the public. For example, on Saturday 3 December 2022



The highest usage of these car parks being in order of use January, weekends, April and October school holidays.

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Our submission is that:

Waimakariri District Council takes responsibility for road maintenance to the end of Taaffes Glen Road (i.e. up to GR GR 43°8'24.28"S 172°23'9.51"E) as part of their metalled roads programme. This is an extension of approximately 0.42 of a kilometre. It is important to note that the majority of the traffic travelling Taaffes Glen Road to the end of the Council maintained section continue past this point to the end of Taaffes Glen Road (i.e. to the confluence of Roundhill Stream and the Okuku River). This includes Waimakariri District residents to access recreational opportunities :

- Cyclists biking to the end of Taaffes Glen Road.
- □ Walkers, trampers, hunters and Department of Conservation staff accessing the Pinchgut Hut Track and Mount Thomas Forest Conservation Area
- □ Families and young people using the swimming holes and / or camping at the confluence of Roundhill stream and Okuku River
- Walking and Riding groups

These recreational opportunities and how to access them are advertised through sites such as the Department of Conservation | Te Papa Atawhai website who state in their online publication <u>DOC Pinchgut Track</u> 'Access this track from the Loburn – Whiterock Road. Near Whiterock turn left onto Taaffes Glen Road and follow the road until you reach Round Hill Stream where there is a small parking area among the beech trees'. Other websites also refer to these parking areas at the end of Taaffes Glen Road for example River Guide (supported by Whitewater NZ) states 'Turn into Taaffes Glen Road and follow this until you reach Round Hill Stream where there is a small parking area 'Access' for the test of the second for example River Guide (supported by Whitewater NZ) states 'Turn into Taaffes Glen Road and follow this until you reach Round Hill Stream where there is a small parking area'.

The Waimakariri District Council Walking and Cycling Strategy clearly states that one of its key priorities in terms of Community Connection is : *promoting walking and cycling as a way of making connections with others and the natural environment.*

Furthermore the Council states on its website under 'Roads and Transport' *The Council* considers the provision of an effective and efficient road and transport system as a key component of its goal of providing high quality living and productive environments... Roading and transport provide people with access to employment, services, education, and recreation, as well as provide for the movement of goods to support a growing economy. Not only does this section of the road provide people with access and for the movement of goods to support a growing economy a growing economy.

- Pest control staff including those monitoring the possums and goats (see Waimakariri District Council <u>Map 144 Goat Control Map</u>)
- ECan staff accessing the Okuku river station
- Other businesses

Overall the condition of this section of the road is good - being in better condition than the unsealed road from Kowhai Stream to Fox Creek after 2022 winter rains (Waimakariri District Council staff Carl Grabowski (Roading Operations Team Leader) and Tim Donaldson (Roading Contracts Engineer) can attest to this.

Following periods of high rainfall we have also worked on the fords on the Council maintained section of Taaffes Glen road when maintenance has not occurred - using our small digger and we have also asked our contractor to improve the fords as he made his way to work on our tracks. For example, working on the ford on Kowhai Stream.



As ratepayers in Waimakariri District Council we are asking the Council to address their responsibility and the inequity where:

The Council recognises

Taaffe Glen Road

but do not maintain the last 0.4 kilometres of Taaffes Glen Road.


From: Sent: Wednesday, October 20, 2021 10:03 AM To: Cc: Carl Grabowski <carl.grabowski@wmk.govt.nz>

Subject: RE: Taaffes Glen Rd, Oxford Rural - Maintenance of DoC section

Hi

This is not a DOC road. I have done a search in our GIS mapping system and it appears to be road/rail reserve so belongs to Waimakariri District Council.

Kaitiaki Matua (Ao Hākinakina/Ao Tuku Iho)

Department of Conservation—Te Papa Atawhai

North Canterbury, Rangiora Office

32 River Road, PO Box 349 Rangiora 7440

Conservation for prosperity Tiakina te taiao, kia puawai

www.doc.govt.nz

From:

Sent: Tuesday, 19 October 2021 3:24 pm

To:

Subject: FW: Taaffes Glen Rd, Oxford Rural - Maintenance of DoC section

Hi

Would you please look into this query and respond to Carl?

Many thanks,

| Kaimātanga Rawa - Ara Pekanga Department of Conservation | Te Papa Atawhai

Whare Kaupapa Atawhai | Conservation House Wellington 18 Manners St | PO Box 10 420, Wellington 6143 T: +64 4 471 0726

Kia piki te oranga o te ao tūroa, i roto i te ngātahitanga, ki Aotearoa. To work with others to increase the value of conservation for New Zealanders.

www.doc.govt.nz

From: Carl Grabowski <<u>carl.grabowski@wmk.govt.nz</u>> Sent: Tuesday, 19 October 2021 1:15 pm

To:

Cc: Joanne McBride <joanne.mcbride@wmk.govt.nz>; Tim Donaldson <<u>Tim.Donaldson@wmk.govt.nz</u>>

Subject: Taaffes Glen Rd, Oxford Rural - Maintenance of DoC section

Hi,

I am not sure that you are who I need to raise this with, but hopefully you are able to resolve this or pass it on to the appropriate person. We have been liaising with

, regarding culvert scour repairs and grading maintenance along Taaffes Glen Road beyond the Waimakariri District boundary, i.e. the section used to access the DOC-owned Pinch-gut Track beyond that.

We were advised that recent flood events, as well as trucks

and cars driven up to the start of Pinch-gut Track, have caused damage to sections of the road. Following a site visit, we issued an instruction to our maintenance contractor to extend the road length currently scheduled for grading, based on its use by members of the general public accessing the track. The extent of this extension is indicated on the attached snip images from our aerial photography and Mobile Roads. We had been maintaining the road up to displacement 5,486, which has now been increased by approximately 300m to the edge of our District boundary. We

are also interested to know whether DoC have any plans for the maintenance of this road beyond our boundary.

Please provide some feedback. Note that we would be available to assist with any planned maintenance, but are unable to maintain the road beyond our boundaries unless funding is provided.

Regards Carl

Carl Grabowski | Roading Operations Team Leader Roading Phone: 0800 965 468 (0800 WMK GOV) Mobile: +64274486036 DDI:+6432669348





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WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-08-09-01 / 241016179221
REPORT TO:	UTILITIES & ROADING COMMITTEE
DATE OF MEETING:	19 November 2024
AUTHOR(S):	Kieran Straw – Civil Projects Team Leader Joanne McBride – Roading & Transportation Leader
SUBJECT:	Amended Roading Capital Works Programme for Approval
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager Chief Executive

1. <u>SUMMARY</u>

- 1.1. This report is to seek the Utilities & Roading Committee's approval of an amended Roading Capital Works Programme for 2024/25, and indicative three-year programme.
- 1.2. Following the outcome of the Councils National Land Transport Programme (NLTP) application, staff have reconsidered the programme to fit within the revised budgets.
- 1.3. This report relates to the following programmes:
 - 1.3.1. Drainage Renewals (Kerb and Channel)
 - 1.3.2. Footpath Renewals
 - 1.3.3. Minor Improvements
 - 1.3.4. New Footpaths
 - 1.3.5. Passenger Transport Infrastructure
- 1.4. These changes are required due to a reduced level of funding being received through the National Land Transport Programme (NLTP) as reported to Council in October 2024.
- 1.5. The area with the largest impact is footpath renewals, which then impacts the streets where kerb & channel renewals can be completed, as the footpath often needs to be done in conjunction with the kerb & channel replacement.
- 1.6. A proposed updated programme is included as Attachment i.

Attachments:

i. Proposed Updated Roading Capital Works Programme 2024 – 2028 (Trim No. 240624102120 (v03)).

2. **RECOMMENDATION**

THAT the Utilities & Roading Committee:

- (a) **Receives** Report No. 241016179221.
- (b) **Approves** the updated 2024/25 Roading Capital Works Programme Version 03 and Indicative Three-Year Programme as per attachment i.
- (c) **Notes** that the updated programme was required to ensure that all proposed works fitted within the available budgets.
- (d) **Notes** that the key changes to the programme is a reduction in footpath renewal work.
- (e) **Circulates** this report to all Boards for their information.

3. BACKGROUND

- 3.1. Report No. 240918159781 was presented to Council in October, which confirmed the outcome of the 2024-27 National Land Transport Programme (NLTP) funding bid, specifically in relation to the Continuous Programme which includes maintenance / operations and renewals activity classes and to seek approval for the proposed approach to manage the shortfall in funding.
- 3.2. The approved approach is to work to the budgets included in this report, which reflect NLTP approved funding plus the extra Council share. This will have no impact on rates across the three year period of the NLTP.
- 3.3. A second report No. 240918160602 was also presented to Council in October. This report sought to inform Council of the outcome of the 2024 27 NLTP funding bid, specifically in relation to the Low-Cost Low-Risk (LCLR) Programme and large capital projects, and to seek approval to alter budgets and timing as previously approved in the Council 2024-34 Long Term Plan (LTP).
- 3.4. This report sought approval to proceed with the full previously approved Minor Safety Improvements Programme, and approved staff to proceed with the Public Transport Infrastructure programme using the Councils 49% share of the funding.
- 3.5. Following the approval of the above reports, staff have revised the proposed programme, and made several amendments to ensure the programme fits within the approved budgets.

4. ISSUES AND OPTIONS

4.1. Drainage Renewals (Kerb and Channel)

The Drainage Renewals budget has had a minor increase. This has therefore increased the length of kerb renewals that Council can complete. However, the kerb and channel renewal programme is developed in conjunction with the footpath renewal programme which has had a significant reduction in the available budget.

The revised kerb and channel programme has therefore been developed to focus to completing sites that are not dependent on the adjacent footpath being completed at the same time. The has been achieved by:

- Focusing on sites that have an existing grassed berm between the kerb and the footpath, or no footpath at all.
- Sites with adjacent footpaths in "average" condition, that we can saw-cut and reinstated the footpath, rather than renewal the full width.
- Sites that we are relocating the kerb alignment away from the existing footpath may be designed in such a way that the footpath remains undisturbed.

Sites that have "poor" or "very poor" footpaths have remained in the programme and the corresponding footpath has been included within the footpath programme as per the original approved programme.

4.2. Footpath Renewals

The footpath renewals budget has had a significant reduction in budget (down to \$392,635 annually from a previous budget amount of \$610,061 annually). As such, staff have reprioritised the programme, focusing on increased footpath maintenance with renewals being planned only where footpath condition is "very poor", and maintenance repairs will not suffice.

Some sites remaining within the programme are the result of co-ordinating works with other programmes, such as water main renewals and kerb and channel renewals.

The greatest savings to the proposed programme have been made by removing some of the sites that were originally included within the programme to be completed in conjunction with the kerb and channel renewals.

The sites that have been removed from the programme (including the 3-year indicative programme), along with the associated reason are listed within the table below:

Site	Side	Reason for withdrawal
Akaroa Street (Hugh St to Ashley PI)	East	Kerb and Channel can be renewed without impacting footpath
Akaroa Street (Ashley Pl to No. 76)	East	Kerb and Channel can be renewed without impacting footpath
White Street (Seddon St to Kingsbury Ave)	West	Can complete small scale maintenance repairs to extend path life
Courtenay Drive (Stone St to Williams St)	North	Can complete small scale maintenance repairs to extend path life
Kingsbury Ave (Windsor Crt to Regent Ave)	North	Condition insufficient to justify renewal.
Treffers Ave (Johns Rd to Parkhouse Dr)	West	Condition insufficient to justify renewal.
Ashgrove Street (Seddon St to No. 62)	East	Kerb and Channel can be renewed without impacting footpath
Stephens Street (High St to Blackett St)	West	Kerb and Channel can be renewed without impacting footpath
Seddon Street (White St to Ayers St)	North	Kerb and Channel can be renewed without impacting footpath
Seddon Street (Kinley St to White St)	South	Kerb and Channel can be renewed without impacting footpath. (saw cut and reduce existing path width to 1.8m)
Bush Street (South Belt to No. 29)	West	Condition insufficient to justify renewal.

The total value of the footpath sites removed from the programme over the 4 years equates to \$505,000.

4.3. <u>Minor Safety Improvements</u>

Council approved the recommendations within the previous report to fully fund the Minor Safety Improvement programme. Staff therefore will continue with the previously approved minor improvement programme, however the revised programme presented within this report includes confirmed carryover figures, and project updates where available.

4.4. New Footpaths

Council has previously approved for staff to proceed with the design, tender and construction of two new footpaths (Lees Road, Kaiapoi and East Belt, Rangiora) as unsubsidised projects. These two projects are continuing this year, with the proposed 3-year programme remaining unchanged.

4.5. <u>New Passenger Transport Infrastructure</u>

This project did not receive any co-funding from NZTA Waka Kotahi, and Council agreed to proceed with the Council 49% share only.

Staff recommend that for the 2024/25 year, that the supply and installation of bus shelters proceeds as per the previously approved programme, and that the planned Real Time Displays that had been proposed for the Park and Ride sites are not completed at this time. Shelters are considered a higher priority as they provide protection from the weather. Real Time displays, while helpful to those using bus services, can be delayed at this time.

For the indicative three-year programme, staff recommend the installation of shelters per year (up to available budget), and no further Real Time Displays.

There is provision in the current year for a concrete pad, and seat to be installed at Pegasus Blvd near the Ravenswood roundabout.

4.6. Implications for Community Wellbeing

There are not implications on community wellbeing by the issues and options that are the subject matter of this report. Implications associated with the reduced programme have been communicated within the previous reports on the matter.

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

5. <u>COMMUNITY VIEWS</u>

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.

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. Stakeholders impacted by these works will be consulted and informed as part of the Project Management processes relevant to the particular project.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. **Financial Implications**

There are not financial implications of the decisions sought by this report.

This budget is included in the Annual Plan/Long Term Plan, and the revised budgets have been previously approved by Council. This report is seeking only approval of the amended programme to fit within these budgets.

6.2. Sustainability and Climate Change Impacts

The recommendations in this report do not have sustainability and/or climate change impacts.

Risks associated with the delaying of renewal activities and the installation of Passenger Transport Infrastructure have been communicated and accepted in their respective reports.

6.3 Risk Management

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

There is a risk that Council could receive criticism for not replacing the footpath at the same time the kerb & channel is upgraded in the street. Messaging about the extent of works being undertaken will be included in information notices to clearly indicate the extent of works to be undertaken.

There is a risk that deferring the identified footpath renewals until they become "very poor" could also receive criticism. This risk is being managed with an increase in footpath maintenance. The district-wide condition rating assessment is also due to be completed prior to the confirmation of the 2025 / 26 programme, which will provide a further opportunity to ensure that the programmes presented for approval ensure that the "very poor" footpaths are addressed as the priority.

6.4 Health and Safety

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

Health and Safety risks associated with individual projects will be addressed through Safety in Design workshops, and appropriate procurement processes.

7. <u>CONTEXT</u>

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 Land Transport Act is relevant to this matter.

7.3. **Consistency with Community Outcomes**

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

The relevant community outcomes are:

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:

...that values and restores our environment...

- 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.

Economic:

...and is supported by a resilient and innovative economy.

• Infrastructure and services are sustainable, resilient, and affordable.

7.4. Authorising Delegations

The Utilities and Roading Committee have the delegated authority to receive this report and approve the recommended update to the 2024-27 Roading Capital Works Programme.

Proposed Roading Capital Works Pr	ogramme fo	or Commun	nity E	Boards - 2	2024	/25 and tl	hree	e indicativ	e y	ears
				24/25		25/26		26/27		27/28
	Side	Town	P Pr	roposed ogramme	In Pro	dicative ogramme	P	Indicative rogramme	P	ndicative rogramme
Kerb and Channel Renewal										
Professional Fees			\$	85,000	\$	85,000	\$	85,000	\$	85,000
Charles Street (Outside Paris for the Weekend) with footpath	West	Kaiapoi	\$	35,000						
Alfred St (Victoria St - Ivory St) with footpath	South	Rangiora	\$	45,000		-		-		
Ashgrove St (Seddon St - No.62)	East	Rangiora	\$	120,000		-		-		
Edward St, No. 14 - Wales St	East	Rangiora	\$	165,000		-		-		
Coates PI (no. 14 to No. 18)	West	Rangiora	\$	25,000						
Stephens St (Blackett St - High St)	West	Rangiora	\$	75,000		-				-
Leech PI (Bush St - end)	North	Rangiora			\$	30,000		-		
Thorne PI (Ivory St - end)	South	Rangiora		-	\$	30,000		-		
Seddon St (Kinley St to White St)	South	Rangiora			\$	30,000		-		-
Seddon St (White St to Ayers St)	North	Rangiora			\$	55,000				
Kingsbury Ave (Windsor Crt - Regent Ave) - V Channel	South	Rangiora		-	\$	50,000				
Akaroa Street (Hugh St - Ashley P)	East	Kaiapoi			\$	130,000				
Akaroa Street (Hugh St - Hodgson) with footpath	West	Kaiapoi			\$	180,000				
Bush St (South Belt - Bush St Reserve)	West	Rangiora		-		-	\$	125,000		
Johns Rd (Green St - Bush St) - with footpath	South	Rangiora		-			\$	20,000		
White St (Johns Rd - Palmer St) - with footpath	East	Rangiora		-			\$	40,000		
White St (Palmer St - opposite Wiltshire PI) - with footpath	East	Rangiora		-		-	\$	160,000		
Johns Rd (Bush St - King St) - with footpath	South	Rangiora		-		-	\$	60,000		
Akaroa Street (Ashley Place - No. 76)	East	Kaiapoi					\$	50,000		-
Akaroa Street (Ashley PI - Alpine Ln) - with footpath	West	Kaiapoi		-			\$	30,000		
Denchs Rd (Southbrook Rd - New Life School)- with footpath	North	Rangiora		-		-			\$	50,000
Green St (Johns Rd - 22) with footpath	East	Rangiora		-				-	\$	115,000
Otaki St (Ohoka Rd - Broom St / no. 21) - with footpath	West	Kaiapoi		-					\$	135,000
Otaki St (Ohoka Rd - Broom St / no. 21) - with footpath	East	Kaiapoi		-		-			\$	70,000
Bush St (Charles St - Watson Pll)	West	Rangiora		-		-		-	\$	45,000
Other Commitments			\$	45,000	\$	45,000	\$	45,000	\$	45,000
To be Allocated			\$	65,000	\$	25,000	\$	45,000	\$	115,600
Value of Work Programmed			\$	595,000	\$	635,000	\$	615,000	\$	545,000
Total Available Budget (including fees)			\$	660,000	\$	660,000	\$	660,000	\$	660,600

			24/25	25/26	26/27	27/28
	Side	Town	Proposed Programme	Indicative Programme	Indicative Programme	Indicative Programme
Footpath Renewal			24/25	25/26	26/27	27/28
Professional Fees			\$ 40,00	0 \$ 40,000	\$ 40,000	\$ 40,000
Alfred St (Victoria St - Ivory St) - with kerb & channel	South	Rangiora	\$ 25,00	0 -	-	-
Charles Street (outside Paris for the Weekend)	West	Kaiapoi	-	-	-	-
Edward St, No. 14 - Wales St - with kerb & channel	East	Rangiora	\$ 15,00	0 -	-	
Blackett Street (north-east quadrant at King Street roundabout - No. 216 King St)	North	Rangiora	\$ 15,00	0 -	-	-
Ashley St (Jennings PI - No. 71/73)	West	Rangiora	\$ 70,00	0 -	-	-
Coates PI (no. 16 to end including cul-de-sac)	Both	Rangiora	\$ 95,00	0 -	-	
Kippenberger Ave (East Belt - end)	North	Rangiora	\$ 60,00	0 -	-	-
Williams Street (Beach to No 232)	East	Kaiapoi	\$ 10,00	0	-	-
Wilson Dr (Mill Rd - end)	East	Ohoka	\$ 35,00	0 -	-	-
Tyler Street (No. 11 - No. 15)	South	Rangiora	\$ 2,00	0		
Princess PI (Smith St - end)	East	Kaiapoi	-	\$ 47,000	-	-
Wiltshire Court	South	Rangiora		\$ 25,000		
Thorne PI (Ivory St - end) - with kerb & channel	South	Rangiora	-	\$ 15,000	-	-
Holcroft Crt (Seddon St- End)	Both	Rangiora		\$ 40,000	-	-
Fraser PI (No. 2 - end)	South	Rangiora		\$ 20,000	-	-
Victoria St (No. 67 - Alfred)	West	Rangiora	-	\$ 22,000	-	-
Burt St (Albert - Ashley)	Both	Rangiora	-	\$ 35,000	-	-
Akaroa Street (Hugh St - Hodgson) - with kerb and channel	West	Kaiapoi		\$ 110,000	-	
White St (Johns to Palmers) - with kerb & channel	East	Rangiora	-		\$ 20,000	-
White St (Palmer to opp Wiltshire) - with kerb and channel	East	Rangiora	-		\$ 40,000	-
Johns Rd (Green St - Bush St) - with kerb & channel	South	Rangiora	-	-	\$ 45,000	-
Johns Rd (Bush St - King St) - with kerb and channel	South	Rangiora	-	-	\$ 30,000	-
Akaroa Street (Ashley PI - Alpine) - with kerb & channel	West	Kaiapoi	-		\$ 30,000	
Blackett St (Ashley St to Railway)	North	Rangiora	-	-	\$ 20,000	-
Park St (High St - end)	West	Rangiora	-		\$ 40,000	-
Fuller St (Peraki St - No. 65)	South	Kaiapoi	-	-	\$ 50,000	-
Buckleys Rd (41-63)	West	Rangiora	-	-	\$ 20,000	-
Parkhouse Dr (Treffers Ave-End)	West	Rangiora		-	\$ 53,000	
Denchs Rd (Southbrook Rd - New Life School) (Opp. Marshall	North	Rangiora	-	-		\$ 25,000
Green St (Johns Rd - No. 22) - with kerb and channel	East	Rangiora	-		-	\$ 40,000
Otaki St (Ohoka Rd to Broom St / no. 21) - with kerb &	West	Kaiapoi	-			\$ 40,000
Hewitts Rd (Appleton PI - No. 27/29)	South	Woodend	-	-		\$ 50,000
Hewitts Rd (Woodglenn Dr - Appleton PI)	South	Woodend	-	-		\$ 30,000
Grove PI (walkway)	East	Rangiora	-			\$ 27,000
Upper Sefton Rd (no. 537- Railway St)	North	Sefton	-	-	-	\$ 35,000
Otaki St (Ohoka Rd to Broom St / no. 21) - with kerb &	East	Kaiapoi				\$ 35,000
Leech PI (Bush St - end) - with K&C	North	Rangiora	-	-	-	\$ 20,000
Bush St (Charles St - Watson Pl) - with kerb & channel	West	Rangiora	-	-	-	\$ 30,000
Akaroa Street (Hugh St – Ashley PI) – with kerb and channel-	East-	Kaiapoi-				
Akaroa Street (Ashley PI - No. 76) - with kerb & channel-	East-	Kaiapoi-				
White St (Seddon St - Kingsbury Ave) - with K&C	West	Rangiora-				
Courtenay Dr (Stone St - Williams St)	North	Kaiapoi-				

			24/25	25/26	26/27	27/28
	Side	Town	Proposed Programme	Indicative Programme	Indicative Programme	Indicative Programme
Kingsbury Ave (Windsor Crt-Regent Ave)-	North	Rangiora-				
Treffers Ave (Johns Rd - Parkhouse Dr)	West	Rangiora-				
Ashgrove St (Seddon St - No.62)	East-	Rangiora-				
Stephens St (High St - Blackett St) - with kerb & channel-	West	Rangiora-				
Seddon St (White St to Ayers St) - with kerb & channel-	North	Rangiora-				
Seddon St (Kinley St to White St) - with kerb & channel	South-	Rangiora-				
Bush St (South Belt - no. 29 - Kindergarten) - with kerb & channel	West	Rangiora			. <u> </u>	
To be Allocated			\$ 25,635	\$ 8,635	\$ 4,635	\$ 20,635
Value of Work Programmed			\$ 367,000	\$ 384,000	\$ 388,000	\$ 372,000
Total Available Budget (including fees)			\$ 392,635	\$ 392,635	\$ 392,635	\$ 392,635

			24/25		25/26	26/27	27/28
	Side	Town	Proposed Programme	,	Indicative Programme	Indicative Programme	Indicative Programme
Minor Improvement Projects							
Lighting							
Oxford Lighting Deficiencies		Oxford	\$ 25,00	00	-	-	-
Oxford Lighting Deficiencies (includes carry-over from 2023/24)		Oxford	\$ 35,00	00	-	-	-
High Street Pedestrian Crossing Lighting		Rangiora	-		\$ 30,000	-	-
Easterbrook / Fernside Rd		Fernside	-		-	\$ 25,000	-
Harewood Rd / South Eyre Road		Oxford	-		-	-	\$ 25,000
Other Lighting Projects (TBC)			-		-	-	-
Intersection Improvements							
Harleston Rd / Broad Rd Intersection		Sefton	\$ 40,00	00	-	-	-
South Eyre Rd / Browns Rd		Swannanoa	\$ 40,00	00	-	-	-
Tram Rd / Earlys Rd Splitter Island		West Eyreton	\$ 40,00	00	-	-	-
Swamp / Hodgsons / Stonyflat		Loburn	-		\$ 50,000	-	-
North Eyre Rd / Logan Road		Mandeville	-		\$ 50,000	-	-
Birch Hill Road / Bald Hills Road		Okuku	-		-	\$ 50,000	-
Easterbrook Rd / Fernside Rd		Fernside	-		-	\$ 50,000	-
Ashley Road / Summer Hill Road		Cust	-		-	-	\$ 50,000
Ashley Gorge Road / Glentui Bush		Glentui	-		-	-	\$ 50,000
King Street / Charles Street		Rangiora					
Budget to be Allocated			-		\$ 30,000	\$ 30,000	\$ 30,000
School Safety Project							
Kaiapoi North School (includes carry-over from 2023/24)		Kaiapoi	\$ 90,00	00	-	-	-
Rangiora High School		Rangiora	\$ 50,00	00	-	-	-
Clarkville School (Carry Over)		Clarkville	\$ 40,00	00	-	-	-
Pegasus School (Solander Road)		Pegasus	-		-	\$ 40,000	-
Other School Projects (TBC)			-		\$ 25,000	\$ 20,000	\$ 50,000
Speed Treatments							
Cosgrove Street Traffic Caliming		Kaiapoi	\$ 25,00	00	-		-
Oxford Speed Thresholds		Oxford	-		\$ 40,000	\$ 40,000	-
Other Speed Projects TBC			-		-	-	-
Minor Works							
Millton Ave Entrance to Rangiora - Speed Treatment		Rangiora	\$ 30,00	00	-	-	-
Speed Indicator Signage - Ground Sockets		Various	\$ 10,00	00	-	-	-
Ashley Street footpath outside cemeteray		Rangiora	-		\$ 20,000	-	
Soverign Palms & Arlington - Roundabout Signage		Kaiapoi	-		-	-	\$ 25,000
Ford Signage		Various	\$ 15,00	00	\$ 20,000	\$ 20,000	-
Blacket St Median		Rangiora	-		-	-	\$ 30,000
Bob Robertson Drive Bus Stop		Ravenswood	\$ 6,00	00			
Other Minor Works			\$ 4,00	00	-	\$ 20,000	\$ 50,000

				24/25		25/26	2	26/27		27/28
	Side	Town	F	Proposed Programme	F	Indicative Programme	Ind Prog	licative gramme	I P	ndicative rogramme
Walking and Cycling Projects										
East Belt Footpath (Grey View PI to Kippenberger)		Rangiora	\$	35,000		-		-		
Rangiora Roundabouts Pedestrian Improvements		Rangiora	\$	40,000						-
Kaiapoi Roundabout Pedestrian Improvements (Ohoka Rd)		Kaiapoi			\$	40,000				
King Street Pedestrian Cut-downs (at George St)		Rangiora	\$	15,000		-		-		-
Pegasus Bay Cycle Trail - On Road Connections Signage		Various	\$	10,000		-		-		-
Rangiora Town Centre Pedestrian Crossings		Rangiora	\$	20,000		-	\$	20,000		-
South Belt Pedestrian Refuge - West of King Street		Rangiora	\$	25,000		-		-		-
Woodend Footpath Improvements (widening)		Woodend		-	\$	40,000		-		-
Pegasus Footpath Connections		Pegasus		-	\$	30,000		-		-
Southbook Cycle Lane Safety Imrovements - Delineation		Rangiora		-		-	\$	20,000		-
Peraki St / Carew St Ped Cutdowns		Kaiapoi		-		-	\$	15,000		-
Pegasus Cycle Lanes at roundabouts		Pegasus		-		-	\$	40,000	\$	50,000
Sneyd / Cosgrove St Ped Cutdowns		Kaiapoi		-		-		-	\$	15,000
Kings Ave Waikuku - Path link from Waikuku Beach Intersection to existing path		Waikuku								
Other Walking & Cycling Projects				-		-		-	\$	50,000
South Belt - Ped Refuge (Btwn Southbrook / King St)		Rangiora		-		-		-		-
Roadside Hazard Removal										
Dixons Rd - Guardrail (RP1125) - includes carry over from		Loburn	\$	266,700				-		-
Dixons Rd - Bridge 2802 (RP2540)		Loburn		-	\$	200,000	\$	200,000		-
Upper Sefton Rd- Remove Concrete Headwall (RP9490)		Sefton Rural		-		-		-	\$	200,000
High Risk Intersection treatments										
Oxford Road - Mertons Road - Plasketts Road			\$	20,000						
South Eyre Road / Poyntz Road			\$	20,000						
South Eyre Road / Two Chain			\$	20,000						
Tram Road / No. 10 Road			\$	20,000						
Tram Road / South Eyre Rd / Giles Road			\$	40,000						
Depot Road / Woodstock Road			\$	20,000						
Mill Road / Ashworths Road			\$	20,000						
Two Chain Road / Swannanoa Road / Boundary Road / Main Drain Road			\$	20,000						
Tram Road / Earlys Road			\$	20,000						
To be allocated					\$	200,000	\$	180,000	\$	180,000
Cattle Underpass										
Underpasses to be allocated				-		-		-		-
Budget to be Allocated				-		-	\$	5,000	\$	15,000
Value of Work Programmed			\$	1,061,700	\$	775,000	\$	770,000	\$	805,000
Approved Annual Budget			\$	1,061,700	\$	775,000	\$	775,000	\$	820,000

				24/25	25/26	26/27	27/28
	Side	Town	F	Proposed Programme	Indicative Programme	Indicative Programme	Indicative Programme
New Footpaths							
Lees Road (Williams St to west of Bayliss Dr)		Kaiapoi	\$	135,000	-	-	-
East Belt (north of Wales to Coldstream)		Rangiora	\$	155,000	-	-	-
Chinnerys Road (Reserve east entrance – Woodglen Dr) – west side		Woodend		-	-	\$ 70,000	-
Redwood Place (Start to end)		Oxford		-	-	\$ 30,000	-
Ranfurly Street (Dale St to Cridland St) – east side		Kaiapoi		-	-	-	\$ 60,000
Matai Place (Start to end)		Oxford		-	-	-	\$ 40,000
Knight Street (Start to end)		Oxford		-	-	-	-
Woodfield Place (Start to end)		Woodend		-	-	-	-
Church Street - Past Anglican Church		Rangiora		-	-	-	-
To be allocated			\$	54,800	-	-	-
Value of Work Programmed			\$	290,000	-	\$ 100,000	\$ 100,000
Total Available Budget (including fees)			\$	344,800	\$	\$ 100,000	\$ 100,000
* 2024/25 footpath programme has been approved by Council							

				24/25		25/26	26/27		27/28
	Side	Town	P	Proposed Programme	lı Pr	ndicative ogramme	Indicative Programme	F	Indicative Programme
			-						
Bus Shelter Programme									
Professional Fees			\$	8,000	\$	8,000	\$ 8,000	\$	8,000
Ohoka Rd (Kaiapoi High School) - north		Kaiapoi	\$	18,000		-	-		
Ohoka Rd (Kaiapoi High School) - south		Kaiapoi	\$	18,000		-	-		
Pegasus Blvd near SH1 - south - Bus Shelter pad and SEAT ONLY		Pegasus	\$	10,000		-	-		
Bush St (near Watson PI) - 51306		Rangiora		-	\$	18,000	-		
Main North Rd (near Hewitts Rd) - 44469		Kaiapoi		-	\$	18,000	-		
Williams St (near Davies St) - 13876		Kaiapoi		-	\$	18,000	-		
Island Rd (near Barnard St) - 53401		Kaiapoi			\$	18,000			
West Belt at BUPA Retirement Home - 54755		Rangiora		-	\$	18,000			-
King St (near Seddon St) - 44623		Rangiora					\$ 18,000		
Williams St near Coups - east - 15818		Kaiapoi					\$ 18,000		
Williams St near Ohoka Rd - east - 15255		Kaiapoi					\$ 18,000		
High St near King St (north) - 47320		Rangiora					\$ 18,000		
Main North Road (near Williams Street) - 42260		Kaiapoi					\$ 18,000		
Main North Road (near Williams Street) - 42241		Kaiapoi						\$	18,000
Main North Road (near Williams Street) - 42260		Kaiapoi						\$	18,000
Bush St near Stratchen - 44794		Rangiora						\$	18,000
Adderly Tce near Sneyd St - 54835		Kaiapoi						\$	18,000
Williams St (near Carew St) 15792		Kaiapoi						\$	18,000
To be allocated			\$	7,250		-	-		-
Value of Work Programmed			\$	54,000	\$	98,000	\$ 98,000	\$	98,000
Approved Annual Budget (including fees)			\$	61,250	\$	98,000	\$ 98,000	\$	98,000

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR INFORMATION

FILE NO and TRIM NO:	DRA-16-05 / 241031189619
REPORT TO:	UTILITIES AND ROADING COMMITTEE
DATE OF MEETING:	19 November 2024
AUTHOR(S):	Melanie Liu, Infrastructure Resilience Manager Kalley Simpson, 3 Waters Manager
SUBJECT:	July 2023 Flood Recovery Progress Update
ENDORSED BY: (for Reports to Council, Committees or Boards)	1 llan Millhown

General Manager

SUMMARY

1.

- 1.1 This report provides a progress update on the July 2023 Flood Recovery work programme, including investigation work and maintenance actions, and provides an overview of the physical works programme recommended by the investigations.
- 1.2 A total of 351 service requests have been received related to the July 2023 storm event, which have been triaged, grouped and classified into a total of 88 investigations, 126 maintenance actions and 31 customer advice actions¹.
- 1.3 As at 5th November 2024, all 88 investigations have been completed and approved.
- 1.4 126 maintenance actions were identified from the service requests following the July 2023 event. As at 5th November 2024, all 126 maintenance actions have been completed.
- 1.5 The 31 customer advice have been provided to the residents.
- 1.6 Work on the following three key focus areas that experience extensive flooding has commenced:
 - **Cam River / Ruataniwha** Substantial work has been completed on the Cam River / Ruataniwha by both Environment Canterbury (ECan) and Waimakariri District Council (Council), which included tree felling and vegetation clearance as well as localised stopbank improvement works. The waterway has recently been reinspected to identify any minor follow up work required. ECan has undertaken survey of the stream bed and stopbanks which will be used to identify any future upgrading works to the Cam River system. The survey results have been made available to WDC and will be presented by ECan to the Kaiapoi-Tuahiwi Community Board meeting on the 18 November 2024.
 - **Tuahiwi** Council has completed heavy maintenance work, including trimming of vegetation from the banks and removal of sediment from the bed, along the main channel of the Tuahiwi Stream / Waituere between Church Bush Road to the Cam River, and vegetation clearing works on the Tuahiwi Stream / Waituere between Greens Road and Church Bush Road. The new box culvert on the upper end of the

Chief Executive

¹ Note that the total number of service requests is greater than the number of investigations and maintenance tasks as an investigation or maintenance task can have multiple service requests associated with the work.

diversion drain (between Greens Road and the Cam River) has been installed and the drain regrading / widening the middle section above Pa Road has been completed.

- Waikuku Beach Detailed assessment is underway to determine the cause of flooding from the Taranaki Stream which was higher than expected. This assessment is expected to be completed in the new calendar year. This work is coordinated with ECan and looks at factors such as the operation of the flood gate, upstream development, and the catchment hydrology, including any recharge from the Ashley River.
- 1.7 There are a total of 24 immediate works projects that are being progressed in the 2023/24 and 2024/25 financial years to implement drainage improvements that have been identified as part of the investigation work. 17 projects have been completed and 7 are in the design phase.
- 1.8 The total budget for the flood recovery work is \$4.055 million, as approved by Council at the October 2023 Council meeting (refer Trim 230921147926). To date \$3,612,550 (or approximately 89%) of the work has been completed and it is estimated that the final expenditure will exceed the budget estimate by \$57,598 for a total of \$4.113 million.
- 1.9 The Flood Team has been wrapped up and all investigation works have been completed. The Infrastructure Resilience Team has been established and has taken over the delivery of the remaining improvement works and the proposed future works.

Attachments:

- i. Flood Recovery July 2023 Tracking As at 5th November 2024 (Trim 241107197726).
- ii. Flood Recovery July 2023 Dashboard As at 5th November 2024 (Trim 241107197722).

2. <u>RECOMMENDATION</u>

- 2.1. **THAT** the Utilities and Roading Committee:
 - a. **Receives** Report No. 241031189619.
 - b. **Notes** that all 88 investigations have been completed and approved.
 - c. **Notes** that all 126 maintenance actions have been completed.
 - d. **Notes** that of the 24 immediate works projects, 17 projects have been completed, and 7 are in the design phase.
 - e. **Notes** that the Infrastructure Resilience Team has taken over the delivery of the remaining improvement works and the proposed future works.
 - f. Notes that the total cost estimate for the flood recovery work is \$4.055 million.
 - g. **Notes** that the expenditure to date is \$3,612,550 and the final forecast expenditure of \$4.113 million.
 - h. **Notes** the estimated 1.42% budget exceedance of \$57,598.
 - i. **Notes** that this budget exceedance will increase the District Drainage rate by approximately \$0.14 or 0.4% per property from 2025/26 onwards.
 - **j. Notes** this is the last progress update report on the July 2023 flooding event as all investigations have now been completed and approved. The remaining improvement works will be reported as part of the Capital Works Programme report presented to Audit & Risk Committee each quarter.
 - k. Circulates this report to all Community Boards for information.

3. BACKGROUND

- 3.1 The district experienced a significant rainfall event over the weekend of 22-24 July 2023, with the coastal area around Woodend receiving approximately 150mm of the rainfall over a 48 hour period.
- 3.2 A total of 351 service requests related to the July 2023 storm event were received. All service requests have been acknowledged and have been collated, triaged and categorised. This work has identified that there is a total of 88 investigations and 126 maintenance tasks that need to be undertaken to address the issues raised in the service requests (refer Table 1 below). There are also 31 service requests predominantly related to private drainage issues where advice has been provided to the customer. These predominantly onsite that are not the responsibility of Council to address.

Classification		No. SR	Investigations	Maintenance Tasks
Investigations	Recent (July 2022)	82	36	-
	Historical (pre 2022) ¹	54	30	-
	New (July 2023)	25	22	-
Maintenance		159	-	126
Customer Advic	e	31	-	-
Total ²		351	88	126

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¹ These are locations where previous investigation work has been undertaken in the past, which was used as a reference for assessing any improvement works required.

² Note that the total number of service requests is greater than the number of investigations and maintenance tasks as an investigation or maintenance task can have multiple service requests associated with the work.

3.3 The Flood Team was established, which was overseen by a Flood Recovery Project Control Group (PCG), comprised of relevant managers from the Utilities & Roading department. A tracking spreadsheet was updated fortnightly and was reported formally to the Utilities and Roading Committee monthly.

4. ISSUES AND OPTIONS

Key Focus Areas

- 4.1. The three key focus areas that experience extensive flooding that will require more detailed assessment, investigation and community and stakeholder are:
 - Cam River / Ruataniwha
 - Tuahiwi
 - Waikuku Beach

Cam River / Ruataniwha

- 4.2. A report Cam River / Ruataniwha was presented to the previous Utilities & Roading Committee meeting in October (refer Trim 231005158212). Immediate maintenance works to remove fallen trees was completed in October. ECan has completed the maintenance work, including tree felling and vegetation clearance, on the lower Cam River from the Kaiapoi River up to Bramleys Road. Work on the upper Cam River above Bramleys Road up to Marsh Road has also now been completed. This work took longer than expected due to the amount of tree maintenance work required.
- 4.3. Localised stopbank improvement works to improve the upper Cam River / Ruataniwha system upstream of Bramleys Road have been completed. This included raising the accessway to 151 & 153 Bramleys Road to reduce the likelihood of breakout flow on the true right bank and raising the stopbank at 100 Topito Road to reduce the likelihood of

breakout from on the true left bank. ECan also raised a section of the stopbank adjacent to 73 & 79 Tuahiwi Road, which was particularly vulnerable.

4.4. ECan has been re-surveying of the bed and banks of Cam River, the section downstream of Bramleys Road has been completed and the section above Bramleys Road is expected to be completed over the coming months. The new survey information is compared to the historical survey from the 1980s, to identify any areas that need immediate works, and undertake modelling of the Cam River to determine if any larger scale upgrades are required. A report has been prepared on their findings and shared with Council. This information will feed into the proposed update of the Scheme Plan for the Cam River/Ruataniwha.

<u>Tuahiwi</u>

- 4.5. Council has completed heavy maintenance work, including trimming of vegetation from the banks and removal of sediment from the bed, along the main channel of the Tuahiwi Stream / Waituere between Church Bush Road to the Cam River, and vegetation clearing works on the Tuahiwi Stream / Waituere between Greens Road and Church Bush Road.
- 4.6. Upgrading works on the diversion drain (between Greens Road and the Cam River) have been completed. The new box culvert at the upper end of the diversion has been installed and the regrading / widening the middle section upstream of Pa Road has been completed.
- 4.7. Survey work has been completed for a potential overflow diversion at Church Bush Road in the lower reach of the Tuahiwi Stream. This has been discussed with ECan River Engineers who support this as an option. Further work is needed to develop the upgrade and estimate the costs. It is intended that these works will be funded from the Infrastructure Resilience Fund in the future.

Waikuku Beach

4.8. Modelling works of the Taranaki Stream has commenced as part of the detailed assessment to determine the cause of higher than expected flooding in Waikuku Beach. This work will assess factors such as the operation of the flood gate, upstream development, flood storage within the Tutaepatu Lagoon area and the catchment hydrology, including any recharge from the Ashley River. A meeting with ECan was held as part of scoping the modelling work required. They are looking at upgrading the flood gates on the outlet of the Waikuku Stream at Leggitts Road to make them less susceptible to blockage. This modelling work has commenced and is expected to be completed after Christmas.

Threlkelds Road

- 4.9. While not one of the original key focus areas, the Threlkelds Road site has been an area of recent focus. A meeting was held with the Threlkelds Road residents on the 31 July 2024. Since that meeting maintenance of a private drain along has been undertaken by the Council and further upgrading works are proposed to extend this drain further west towards Armstrongs Drain. Further work is required to develop this upgrade and to seek additional budget from Council for the work. At the September 2024 Ohoka-Mandeville Drainage Advisory Group meeting, it was proposed (following a request from residents) to designate this drain as a Council maintained asset under the Ohoka Rural Drainage account. The proposal was approved by the advisory group and will now be included in the regular inspection and maintenance program. The estimated cost of maintenance for this drain is \$5,300, which will be funded by the Ohoka Drainage Scheme within existing operational budgets.
- 4.10. Further maintenance work to improve the outlet of the Threlkelds Road drain to both the Cust River and the east side of Threlkelds Road (via the overflow pipe) is proposed. This work includes removal of large trees and the potential improvements to the flap gate. Additionally, a hydraulic modelling assessment of options to upgrade the overflow pipe to the east side of Threlkelds Road is undertaken to establish if additional flow can be

conveyed without increasing downstream flooding. The modelling work is expected to be completed after Christmas.

Progress of Investigations

4.11. All the 88 investigations have been triaged, scoped and approved. The status of these is summarised in the following table.

Table 2 –	Progress of	of Investigations
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Phase	Previous Report	Current Status⁴	Change
Triaging	0	0	-
Scoping	0	0	-
Under investigation (Flood Team)	0	0	-
Review and approval (Asset Manager)	5	0	-5
Maintenance / immediate works programmed ¹	0	0	-
Improvement works proposed ²	0	0	-
Completed ³	83	88	+5
Total	88	88	-

¹ For the current financial year.

² Subject to future year budget process.

³ Investigation complete, actions agreed. works programmed or budgeted, customer/s called back. ⁴ As at 5th November 2024.

- 4.12. All investigation work has been approved. The physical works have been either programmed as immediate works or budgeted for future years and customers have been contacted to let them know the outcome of the investigation. Where the issue related to private drainage issues practical advice has been provided to the customer on onsite measures, they could consider putting in place.
- 4.13. The following table provides a summary of the solutions identified by the investigations, which will be updated as the investigations are reviewed and approved.

Implementation Solutions	Previous Report	Current Status	Change
Not yet determined	5	0	-5
Physical Works FY23/24	49	51	+2
Physical Works FY24/25	14	17	+3
O&M changes	0	0	-
No action/Customer Advice	20	20	-
Total	88	88	-

Table 3 – Outcome of Investigations

4.14. There are 35 investigations that have been previously investigated due to past flooding events. The budgets assigned to these investigations (FT04 to NS5) are to cover the costs associated with investigating the cause of flooding and confirm if the previous programmed works would address the flooding issues observed in the recent July 2023 event.

Progress with Maintenance Actions

- 4.15. Of the 126 maintenance actions all 126 have now been inspected and either completed or programmed.
- 4.16. There is a total of 24 immediate works that are being progressed in the 2023/24 and 2024/25 financial years to implement drainage improvements that have been identified as part of the investigation work (refer Table 5 below). Note that some of these projects are

funded from existing capital works budgets that existed prior to the July 2023 flood event, as well as new capital works budget approved by Council in October 2023.

Project	Budget	Status
Broadway Ave, Waikuku Beach	\$15,000	Complete
10 Beach Crescent, Waikuku Beach	\$80,000	Design
Rotten Row, Waikuku Beach	\$25,000	Design
Pegasus Main Street, Pegasus	\$50,000	Tender
Pearson Drain Improvements, Oxford	\$330,000	Complete
Helmore Street Bund, Rangiora	\$75,000	Complete
Main North Road, Kaiapoi	\$5,000	Complete
Tram Road, Clarkville	\$100,000	Complete
Edmunds Road, Clarkville	\$50,000	Complete
Revells Road, Tuahiwi	\$50,000	Design
Greens Road, Tuahiwi	\$200,000	Complete
Woodfields Road, Cust	\$150,000	Complete
South Eyre Road, Eyrewell	\$20,000	Complete
Washington Place, West Eyreton ¹	\$210,000	Complete
Lower Sefton Road, Ashley	\$100,000	Design
Upper Sefton Road, Ashley	\$80,000	Tender
North Eyre Road, Eyreton	\$15,000	Complete
Poyntzs Road, Cust	\$80,000	Design
Wilson Drive, Ohoka	\$200,000	Complete
Bramleys Road, Tuahiwi	\$100,000	Complete
Upper Cam River	\$150,000	Complete
Siena Place, Mandeville	\$30,000	Complete
Featherstone Ave, Kairaki	\$90,000	Complete
306 Beach Road	\$72,000	Complete
Total	\$2,277,000	-

Table 5 – Progress with Immediate Works

¹ Washington Place had existing capital works budget (\$160k) prior to the July 2023 flood event and additional capital works budget (50k) approved by Council in October 2023 as part of the flood response.

4.17. 17 projects have been completed, 5 are in the design phase and 2 projects are in tender phase. Approximately, \$1.4 million was carried over into the 2024/25 financial year, however a majority of this was either under construction or is expected to commence construction this calendar year. These projects will continue to be reported to the Audit & Risk Committee as part of the quarterly capital works programme report.

Proposed Future Works

4.18. There are 10 investigations that relate proposed future works that have capital works budgets in outer years. The works for Washington Place have been completed and Cust Road drainage improvements are under construction, while the other projects which relate to improvements in Kaiapoi, Rangiora, Oxford, Waikuku Beach and Mandeville are planned for outer years as shown in Table 6 below.

Project	Budget	Construction
Washington Place, West Eyreton	\$130,000	23/24 - 24/25
Cust Road, Cust	\$300,000	24/25
Depot Road, Oxford (Roading)	\$1,000,000	24/25 - 25/26
Kaikanui Diversion	\$1,570,000	24/25 - 26/27
Percival Street, Rangiora (Sewer)	\$550,000	25/26

Table 6 – Proposed Future Works

Cridland Street West, Kaiapoi	\$2,000,000	25/26 - 26/27
Belmont Avenue, Rangiora	\$480,000	27/28
10 Beach Crescent, Waikuku Beach (Stage 2)	\$1,100,000	28/29
Mandeville Resurgence Channel (Stage 1 & 2)	\$22,600,000	24/25 - 31/32
Taranaki Stream Pump Station	\$6,250,000	34/35 - 35/36

4.19. 11 projects have been budgeted and will be undertaken in the 24/25 financial year. These projects will be funded by the Infrastructure Resilience Fund. Table 7 lists these projects.

Table 7	7 – Infrastructure	Resilience Fund	Proposed	Works for 24/25
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Project	Budget	Construction
96 Topito Road	\$80,000	24/25
Waikuku Beach Road	\$35,000	24/25
250 Revells Road	\$50,000	24/25 - 25/26
Bridge Street Culvert Upgrade	\$40,000	24/25 - 25/26
Greigs Road	\$35,000	24/25
Bradleys Road Pipe to Cust River	\$90,000	24/25
Upper Sefton Road	TBC	24/25
Threlkelds Road, Ohoka	TBC	TBC
Pascoe Drive, Woodend	TBC	TBC
Church Bush Road overflow diversion	TBC	TBC
MacDonalds Lane, Waikuku	TBC	TBC

- 4.20. The Church Bush Road overflow diversion, MacDonalds Lane upgrade, Pascoe Drive and Threlkelds Road drain upgrade projects will require further work to develop potential solution.
- 4.21. It's important to note that the district wide flood model is due for review. This is a multi-year project with an estimated cost of \$350,000. Council staff are currently exploring options to fund this work within existing budgets.

Communications

- 4.22. The communications strategy document was prepared and endorsed by the Utilities & Roading Committee. The website has been updated to deliver the flood response progress to the public based on the progress as at 5th November 2024.
- 4.23. A programme of regular communications has been implemented to support the recovery programme. In particular, the following key activities have been undertaken:
 - A fortnightly dashboard and detailed tracking sheet published on the website.
 - Personal phone calls or emails to submitters when investigations begin to understand the issue, with follow up communications to confirm the outcomes.
 - Resident meetings, either street meetings or at community halls, will be held where appropriate. A residents' meeting has already been held in the West Eyreton Hall for the Washington Place flooding issue. Additionally, several street meetings have already been held for the Bramleys Road / Cam River flooding issue, the Threlkelds Road flooding issue and the Tram Road flooding issue. A meeting was held with the Threlkelds Road residents on the 31 July 2024.
 - Close out emails or communications with submitters as appropriate when each investigation is complete.

Implications for Community Wellbeing

- 4.24. There are implications on community wellbeing by the issues and options that are the subject matter of this report.
- 4.25. Safe and reliable Roading and 3 Waters infrastructure is critical for wellbeing. 3 Waters infrastructure includes adequate drinking water, wastewater drainage and stormwater drainage for health and Roading infrastructure is required to provide safe egress and enable residents to access goods and services within the community.
- 4.26. The Management Team has reviewed this report and support the recommendations.

5. <u>COMMUNITY VIEWS</u>

Mana whenua

5.1. Te Ngāi Tūāhuriri hapū are likely to be affected by or have an interest in the subject matter of this report as it relates to impacts on waterways and rivers. Staff will update the Runanga at the executive meetings and where relevant on specific projects or consents engage with Mahaanui Kurataio Limited.

Groups and Organisations

- 5.2. A number of the issues in this report cross over with ECan in terms of consenting, or in relation to rivers and natural waterways assets and services they maintain. Staff from ECan and WDC are working to proactively coordinate where necessary.
- 5.3. There are some drainage related issues that also relate to water races and irrigation races. Where this is the case staff are coordinating with Waimakariri Irrigation Limited.

Wider Community

5.4. The wider community is likely to be affected by, or to have an interest in the subject matter of this report, as the wider community has been impacted by the recent flood event.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

Financial Implications

- 6.1. The Council has approved unbudgeted expenditure of up to \$4.055 million in the 2023/24 financial year for emergency and immediate works responding to and recovering from the flooding.
- 6.2. The updated cost estimate and spend to date for the works associated with recovery from the flood is summarised below with the assessment of the funding source.

Area	Estimate	Spent to date	Forecast final expenditure
Roading	\$1,950,000	\$1,934,476	\$1,934,476
Stormwater	\$230,000	\$102,554	\$205,994
Land Drainage	\$815,000	\$388,467	\$722,410
Rivers	\$300,000	\$198,535	\$261,200
Wastewater	\$160,000	\$116,320	\$116,320
Flood Response Investigations	\$600,000	\$872,198	\$872,198
Total	\$4,055,000	\$3,612,550	\$4,112,598

Table 8 – Financial Spend Summary

- 6.3. At this stage it is expected that the final expenditure will exceed the budget estimate approved by Council in October 2023 by \$57,598, for a total of \$4.113 million (1.4% exceedance). There is approximately \$985,000 of immediate works budgeted in the \$4.055 million approved by Council in October 2023 that will carry over into the 2024/25 financial year. Note that there was a carryover of approximately \$400,000 of expenditure, which has been allowed for in the total forecast cost.
- 6.4. The flood response investigations expenditure is \$872,198 for this past financial year (23/24). Any additional expenditure for flood response investigations in the current financial year (24/25) will be funded from existing Infrastructure Resilience Team budgets.
- 6.5. The investigation budget overspend was mainly due to a large number of complex flooding issues across the district. Several flood issues were not straight forward and required indepth analysis from both the Flood Team and 3 Waters staff. These investigations required additional survey, modelling and analysis to confirm the next steps.
- 6.6. The fully staffed Infrastructure Resilience Team is expected to reduce future response costs for significant events. With the team already onboarded, familiar with Council processes, and an understanding of historical flooding issues, they will be able to respond to future incidents more efficiently.

Project	Status	Budget	Spent to	Final Forecasted
1 10,000	Oluluo	Dudgot	Date	Expenditure
Broadway Ave, Waikuku				
Beach	Complete	\$15,000	\$18,497	\$18,497
10 Beach Crescent,				
Waikuku Beach	Design	\$80,000	\$0	\$80,000
Rotten Row, Waikuku				
Beach	Design	\$25,000	\$1,560	\$25,000
Pegasus Main Street,				
Pegasus ¹	Tender	\$50,000	\$0	\$50,000
Pearson Drain				
Improvements, Oxford ¹	Complete	\$330,000	\$14,360	\$50,000
Helmore Street Bund,				
Rangiora ¹	Complete	\$75,000	\$5,514	\$5,514
Main North Road, Kaiapoi	Complete	\$5,000	\$5,019	\$5,019
Tram Road, Clarkville	Complete	\$100,000	\$4,313	\$100,000
Edmunds Road, Clarkville	Complete	\$50,000	\$54,078	\$54,078
Revells Road, Tuahiwi	Design	\$50,000	\$0	\$50,000
Greens Road, Tuahiwi	Complete	\$200,000	\$174,462	\$180,000
Woodfields Road, Cust	Complete	\$150,000	\$130,728	\$140,000
South Eyre Road, Eyrewell	Complete	\$20,000	\$0	\$0
Washington Place, West				
Eyreton ²	Complete	\$160,000	\$160,000	\$160,000
Washington Place, West				
Eyreton	Complete	\$50,000	\$9,901	\$9,901
Lower Sefton Road, Ashley	Design	\$100,000	\$4,740	\$100,000
Upper Sefton Road, Ashley	Tender	\$80,000	\$1,815	\$80,000
North Eyre Road, Eyreton ¹	Complete	\$15,000	\$15,000	\$15,000
Poyntzs Road, Cust ¹	Design	\$80,000	\$3,200	\$80,000
Wilson Drive, Ohoka	Complete	\$200,000	\$128,212	\$128,212
Bramleys Road, Tuahiwi	Complete	\$100,000	\$61,200	\$61,200
Upper Cam River	Complete	\$150,000	\$137,335	\$150,000

Table 9 – Immediate Works Financial Spend Summary

Total	·	\$2,277,000	\$1,144,476	\$1,756,963
306 Beach Road ¹	Complete	\$72,000	\$88,731	\$88,731
Featherstone Ave, Kairaki ¹	Complete	\$90,000	\$125,811	\$125,811
Siena Place, Mandeville	Complete	\$30,000	\$0	\$0

¹ These projects are funded from existing capital works budgets that existed prior to the July 2023 flood event, as well as new capital works budget approved by Council in October 2023.

² Washington Place had existing capital works budgets prior to the July 2023 flood event.

Sustainability and Climate Change Impacts

6.7. The frequency and severity of flood events is likely to increase due to the impacts of climate change.

Risk Management

- 6.8. There are risks arising from the adoption/implementation of the recommendations in this report.
- 6.9. A risk-based approach has needed to be adopted around the management of any improvements works. Whole of life cost will be considered when agreeing the extent of works and the residual risk due to further rainfall events.

Health and Safety

- 6.10. There are health and safety risks arising from the adoption/implementation of the recommendations in this report.
- 6.11. Physical works will be undertaken to repair flood damage and as per standard process for any physical works, the contractor will be required to provide a Site-Specific Health & Safety Plan for approval prior to work commencing on site.

7. <u>CONTEXT</u>

Consistency with Policy

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

Authorising Legislation

7.2. The Land Transport Management Act is the relevant legislation in relation to Roading activities.

Consistency with Community Outcomes

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

There is a safe environment for all

- Harm to people from natural and man-made hazards is minimised.
- Our District has the capacity and resilience to quickly recover from natural disasters and adapt to the effects of climate change.
- Crime, injury and harm from road crashes, gambling, and alcohol abuse are minimised.

Transport is accessible, convenient, reliable and sustainable

- The standard of our District's roads is keeping pace with increasing traffic numbers.
- Communities in our District are well linked with each other, and Christchurch is readily accessible by a range of transport modes.

Core utility services are sustainable, resilient, affordable; and provided in a timely manner

- Harm to the environment from sewage and stormwater discharges is minimised.
- Council sewerage and water supply schemes, and drainage and waste collection services are provided to a high standard.
- Waste recycling and re-use of solid waste is encouraged, and residues are managed so that they minimise harm to the environment.

Authorising Delegations

7.5. Relevant staff have delegation to authorise unbudgeted emergency works where needed.

Flood Recovery Tracking November 2024

Work package	Location	Report status	Investigation Outcome	% Completed
231-01	228 Marsh Road & 2	Approved	Physical Works	100
231-02	12 & 14 Pascoe Drive, WOODEND	Approved	Future Year CAPEX	100
231-03	1639 Poyntzs Road, HORRELLVILLE	N/A	Physical Works FY23/24	100
231-04	138 Edmunds Road & 585 Tram Road, CLARKVILLE	N/A	Physical Works FY23/24	100
231-05	19 B Newnham Street, RANGIORA	Approved	No Action/ Customer Advised	100
231-06	165 Raddens Road, OHOKA	Approved	Physical Works FY23/24	100
231-07	1758 North Eyre Road, EYRETON	N/A	Physical Works FY23/24	100
231-08	242 Jeffs Drain Road, CLARKVILLE	Approved	No Action/ Customer Advised	100
231-09	785 Tram Road, WAIMAKARIRI DISTRICT	Approved	Physical Works FY23/24	100
231-10	489 Woodfields Road, SWANNANOA	Approved	No Action/ Customer Advised	100
23I-11	97 & 97 A Threlkelds Road, OHOKA,	Approved	No Action/ Customer Advised	100
231-12	153 & 180 Loburn Terrace Road, LOBURN NORTH	Approved	Physical Works FY23/24	100
23I-13	187 Terrace Road, CUST	Approved	No Action/ Customer Advised	100
231-14	Waikuku Beach Road / Leggits Road, WAIKUKU BEACH	Approved	Physical Works FY23/24	100
23I-15	236 & 269 Swannanoa Road, FERNSIDE	Approved	Physical Works FY23/24	100
23I-16 - Draft email sent to Gerard	196 Loburn Terrace Road, LOBURN NORTH	Approved	No Action/ Customer Advised	100
23I-17	60 Siena Place, MANDEVILLE	N/A	Physical Works FY23/24	100
231-18	13 & 26 Collins Drive, WAIKUKU BEACH	Approved	Physical Works FY23/24	100

As at 7 November 2024

231-19	79 Park Terrace, WAIKUKU BEACH	Approved	Future Year CAPEX	100
231-20	4, 6 & 8 Waikuku Beach Road, WAIKUKU BEACH & 1/57 Topito Road, TUAHIWI	Approved	Future Year CAPEX	100
231-21	229 Island Road, KAIAPOI	Approved	Future Year CAPEX	100
231-22	214 Greigs Road, CLARKVILLE	Approved	Physical Works FY23/24	100
231-23	964 Woodfields Road, CUST	N/A	No Action/ Customer Advised	100
23I-24 - Draft email forwarded to Jason 29/05/24	102 Topito Road, TUAHIWI	Approved	Physical Works FY23/24	100
231-25	29 Reserve Road, WAIKUKU BEACH	Approved	Future Year CAPEX	100
231-26	23 & 31 Queens Avenue, WAIKUKU BEACH	Approved	Physical Works FY23/24	100
231-27	3 B Charles Street, RANGIORA	N/A	No Action/ Customer Advised	100
231-28	793 Browns Road, SWANNANOA	Approved	Future Year CAPEX	100
231-29	152 Ohoka Road, KAIAPOI	N/A	No Action/ Customer Advised	100
231-30	8 Rowse Street, RANGIORA	Approved	No Action/ Customer Advised	100
231-31	102 Eders Road, WOODEND	N/A	No Action/ Customer Advised	100
231-32	47 Upper Sefton Road, SEFTON	Approved	Physical Works FY23/24	100
231-33	82 & 110 Old North Road, KAIAPOI	Approved	Physical Works FY23/24	100
231-34	198 Sladdens Farm Road, COOPERS CREEK	N/A	Physical Works FY23/24	100
231-35	69 Old North Road, KAIAPOI	N/A	Physical Works FY23/24	100
231-36	18 Evans Place, KAIAPOI	N/A	No Action/ Customer Advised	100
231-37	105 Otaki Street, KAIAPOI	N/A	No Action/ Customer Advised	100
231-38	2 Alpine Lane (Pvt), KAIAPOI	Approved	No Action/ Customer Advised	100
231-39	43 Cam Road, KAIAPOI	N/A	Future Year CAPEX	100

231-40	3 Allin Drive & Kings Avenue, WAIKUKU BEACH	N/A	Physical Works FY23/24	100
231-41	10 Parkinson Place, WOODEND	Approved	Physical Works FY23/24	100
231-42	246 Revells Road, KAIAPOI	Approved	Future Year CAPEX	100
23I-43a	3307 South Eyre Road, EYREWELL	N/A	No Action/ Customer Advised	100
23I-43b	3359 South Eyre Road, EYREWELL	Approved	Physical Works FY23/24	100
231-44	533 Lower Sefton Road, ASHLEY	Approved	Physical Works FY23/24	100
231-45	3 Railway Street, SEFTON	Approved	No Action/ Customer Advised	100
231-46	67 & 77 Fairweather Crescent, KAIAPOI	Approved	Future Year CAPEX	100
231-47	119 Greens Road, TUAHIWI	Approved	Physical Works FY23/24	100
231-48	183 B Tuahiwi Road, TUAHIWI	N/A	No Action/ Customer Advised	100
231-49	109 Te Pouapatuki Road, WOODEND	Approved	Physical Works FY23/24	100
231-50	1/57 Topito Road, Tuahiwi	Approved	Physical Works FY23/24	100
23M-066	127 Mairaki Road, Waimakariri District	Approved	Physical Works FY23/24	100
FT04	310 Beach Road, KAIAPOI	N/A	Physical Works FY23/24	100
23M-027 & 23M- 081	Fullers Road, Kaiapoi	Approved	Physical Works FY23/24	100
FT10	59 Main North Road, KAIAPOI	N/A	Physical Works FY23/24	100
FT17	15 Cridland Street West, KAIAPOI	N/A	Physical Works FY23/24	100
FT24	31 & 35 Broadway Avenue, WAIKUKU BEACH	N/A	Physical Works FY23/24	100
FT25	34 Kiwi Avenue, WAIKUKU BEACH	Approved	Physical Works FY23/24	100
FT27	4 Swindells Road	N/A	Physical Works FY23/24	100
FT31	29, 30 & 31 Pegasus Main Street, PEGASUS	N/A	Future Year CAPEX	100
FT37	Church Street Reserve, OXFORD	Approved	Physical Works FY23/24	100
FT42	5 & 10 Wilson Drive. OHOKA	N/A	Physical Works FY23/24	100

FT44	1461 Main North Road (Sh1) (Wnd-Amb), WOODEND	N/A	Physical Works FY23/24	100
FT45	6 & 16 Macdonalds Lane, WAIKUKU	Approved	Future Year CAPEX	100
FT46	2, 4, 11, 14 & 28 Stalkers Road and 62 Ferry Road, WOODEND BEACH	N/A	Physical Works FY23/24	100
FT49	1838 & 1840 Cust Road. CUST	N/A	No Action/ Customer Advised	100
FT50	1689 & 1689 B Cust Road, CUST	N/A	Physical Works FY23/24	100
FT56	4123 South Eyre Road, EYREWELL	N/A	Future Year CAPEX	100
FT62	56 Featherstone Avenue, KAIRAKI	N/A	Physical Works FY23/24	100
H08	14 Blakeley Place & Hinemoa Park, KAIAPOI	Approved	Physical Works FY23/24	100
H14	1140 & 1170 Woodfields Road and 50 Howsons Road, CUST	N/A	Physical Works FY23/24	100
H16	205 Cones Road / Fawcetts Road & 36 Max Wallace Drive, ASHLEY	N/A	Physical Works FY23/24	100
H18	79 Greens Road, TUAHIWI	Approved	Physical Works FY23/24	100
H21	28 Belmont Avenue, RANGIORA	Approved	Future Year CAPEX	100
H24	32 Wetherfield Lane, MANDEVILLE	N/A	Future Year CAPEX	100
H27	376 Island Road, KAIAPOI	N/A	No Action/ Customer Advised	100
H30	308, 380 & 414 No 10 Road, EYRETON, 1124 & 1126 Tram Road, WAIMAKARIRI DISTRICT, 8 Wetherfield Lane, MANDEVILLE	N/A	No Action/ Customer Advised	100
H32	5 Washington Place, WEST EYRETON & 9 Earlys Road, CUST	N/A	Physical Works FY23/24	100
H41	301, 305 & 306 Tram Road, WAIMAKARIRI DISTRICT	Approved	Physical Works FY23/24	100
N08	15 & 29 Holland Drive, KAIAPOI	Approved	Physical Works FY23/24	100
N13	10 Beach Crescent, WAIKUKU BEACH	Approved	Physical Works FY23/24	100
N18	29 & 53 Northside Drive, WAIKUKU BEACH	Approved	Physical Works FY23/24	100

N19	16 Church Bush Road, TUAHIWI	Approved	Future Year CAPEX	100
N30	150 Bramleys Road, TUAHIWI	N/A	Physical Works FY23/24	100
N32	45 Queens Avenue, WAIKUKU BEACH	Approved	Physical Works FY23/24	100
NS1	51 Percival Street, RANGIORA	N/A	Future Year CAPEX	100
NS4	32 Wetherfield Lane, MANDEVILLE (FYI SR is actually for 380 No10 Road)	N/A	Future Year CAPEX	100
NS5	183 B & 255 Tuahiwi Road, TUAHIWI	N/A	Physical Works FY23/24	100

FLOOD RECOVERY STATUS REPORT As at Thursday, 7 November 2024

Fortnightly Report

Introduction The district experienced a significant rainfall event over the weekend of 22-24 July 2023, with hour period. The purpose of this report is to update the Utilities and Roading Committee and Community Boards on the status of the drainage and sewer service requests and further investigations: Report Format This report will be prepared fortnightly and will include the following information - This Dashboard showing: - General commentary - Dashboard metrics - Specific commentary on Key Focus Areas - An attached report on all the investigations General Update Investigations Reports - Great news in that all the Investigation Reports have now been signed off Physical Works Tram Road works have now been completed. Maintenance Works CORDE have completed all the remaining maintenance work identified in relation to the July 2023 event.



Greens Road to Pa Road Diversion Improvements

Investigation Phase	As at 3 October	This report
Triaging	0	0
Scoping	0	0
Under investigation	0	0
Submitted for approval	5	0
Investigations completed	83	88
% of work Investigation completed	99%	100%
Total	88	88
Implementation Solutions	As at 3 October	This report
Not yet determined	5	0
Physical Works FY23/24	49	51
Future year capex	14	17
No action/Customer Advice	20	20
Total	88	88
Maintenance Actions Phase	As at 3 October	This report
To be started	0	0
Work in progress	0	0
Works programmed	0	0
Completed	126	126
Total	126	126

Key Metrics

Key Focus Areas

Cam River	ECan maintenance work on the with the chipping and removal o
Tuahiwi	Maintenance of Tuahiwi Stream Pouapatuki Road drain are com upgrade is complete. Downstre completed.
Waikuku Beach	A Waikuku modelling study is to which was higher than expecte of the flood gate, upstream dev any recharge from the Ashley R
Swindells Road, Waikuku Beach	Temporary pump has been deli pipework improvements along
Stalkers Road, Woodend Beach	The Stalkers Road Upgrade wor
Cust Road, Cust	Main overflow pipe improveme Overflow pipe to drain awaiting
Washington Place, West Eyreton	The channel improvements eith culvert installation has also bee
Featherstone Ave, Kairaki	Issue with inflow and infiltratio main issues in campground con laterals in Featherstone Ave con
Cones Road, Ashley	Cones Road Drain Upgrade wor
Mandeville Resurgence Flow	Modelling to assess downstrean underway. Site visit with electe with Ohoka Mandeville Drainag Meeting with Oxford-Ohoka Co
Beach Crescent, Waikuku Beach	Install sumps and pipework to on the campground and install a d discharge from a portable pum
Tram Road, Clarkville	Upsize the 375mm culvert to a complete.
Upper Sefton Road, Sefton	Upper Sefton Road improvemen commence before Christmas.

WAIMAKARIRI DISTRICT COUNCIL			
cam River up to Marsh Road has been completed tree material due to be finished this month.	Completed		
from Greens Road to the Cam River and Te lete. Greens Road Diversion access way culvert m channel capacity improvements have been	Completed		
be undertaken to determine the cause of flooding . This work will look at factors such as the operation lopment, and the catchment hydrology, including er.	Under Investigation		
ered and testing has been undertaken. Swale and opbank work has been completed.	Completed		
s have now been completed.	Completed		
ts to the lower terrace have been completed. assement agreement.	Under Construction		
r side of Earlys Road have been complete. Box completed.	Completed		
overloading the sewer. Urgent works to address oleted. Additional remedial work on manholes and pleted.	Completed		
s have been completed.	Completed		
impacts from stage 1 improvement works is members was undertaken on August 14. Meeting Advisory Group was undertaken on 25 September. munity Board on 7th November.	Future Year Capex		
nnect existing low points to a new pump chamber in charge main through to the sand dunes for the Design is under review.	Under Investigation / Design		
00mm culvert on both sides of Tram Road is	Completed		
s are out for Tender. Construction anticipated to	Tender		

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR INFORMATION

FILE NO and TRIM NO:	SEW-12 / 241104191893		
REPORT TO:	UTILITIES & ROADING COMMITTEE		
DATE OF MEETING:	19 November 2024		
AUTHOR(S):	Caroline Fahey, Water & Wastewater Asset Man	ager	
SUBJECT:	Eastern District Sewer Scheme and Oxford Compliance Reports 2023 – 24	Sewer Scheme Annual	
(for Reports to Council, Committees or Boards)	General Manager	Chief Executive	

1. <u>SUMMARY</u>

- 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 2023-24 compliance year (1 July 2023 to 30 June 2024).
- 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 schemes 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 2023-24 monitoring period, with the exception of low dissolved oxygen levels measured at the Woodend and Rangiora WWTPs, which did not affect the overall performance of the wastewater treatment systems and had no environmental impact on the receiving environment. There were also some issues with missing field sample data (pH, DO and temperature) caused by data outage of the recording software application and missed bore depth samples.
- 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 2023-24 monitoring period. There were some non-compliance relating to temporary overflow of the wet weather holding pond during the July 2023 weather event which also caused an exceedance of the 10-day hydraulic retention time limit, and the lack of monitoring data to clearly demonstrate that the depth limit for effluent application at the irrigation field had been achieved. 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 2023-24 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 2023-2024 (TRIM 241105192068)
- ii. Oxford Sewer Scheme Annual Compliance Monitoring Report 2023-2024 (TRIM 241105192079)

2. **RECOMMENDATION**

THAT the Utilities and Roading Committee:

- (a) **Receives** Report No. 241104191893.
- (b) Notes that full compliance was achieved for all Eastern District Sewer Scheme (EDSS) Ocean Outfall consent conditions relating to environmental limits during the 2023-24 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 2023-24 monitoring period. There were some non-compliances relating to temporary overflow of the wet weather holding pond during the July 2023 weather event and the lack of monitoring data to clearly demonstrate that the depth limit for effluent application at the irrigation field had been achieved. 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 (ECan) are currently reviewing the Annual Compliance Monitoring Reports for the 2023-24 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, Te Kōhaka o Tūhaitara Trust and Waimakariri Water Zone Committee 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 2023-24 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. 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 approximately 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.





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 2023-24 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 some issues with missing

field sample data (pH, DO and temperature) caused by data outage of the recording software application and missed bore depth samples.

Table 1: Summary of Eastern	n District Ocean Outfall	Consent Compliance 2023/24
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Consent	Activity	Compliance	
CRC041162.2	To discharge treated sewerage effluent into coastal marine area from sub-aqueous ocean outfall	Complies with all environmental limits. Note- several field data samples were missed during sampling of the Ocean Outfall pipeline discharge (condition 9(a)).	
CRC041049	To discharge treated sewage effluent to the infiltration wetland and to ground water via seepage at the Kaiapoi WWTP	Complies. Note - missed one groundwater bore water depth field sample in July 2023.	
CRC168391	To discharge treated sewage effluent via seepage onto land (Woodend)	Complies.Notemissedonegroundwaterbore waterdepthfieldsampleinJuly 2023.	
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, below required minimum environmental limit. Sampling locations and 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)	Non – compliance, low Dissolved Oxygen	
levels	in e	each	pond,
-----------	-------	--------	---------
below		re	quired
minimu	ım er	viron	mental
limit. Sa	ampli	ng loo	cations
and po	ond p	perfor	mance
being			further
investig	gated		

4.2. Eastern District Scheme non-compliances

4.2.1. Low Dissolved Oxygen

- 4.2.2. CRC168388 Condition 6 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 that has now been addressed. However recent non-compliant samples indicate likely ongoing issues with the optical meter sampling location or pond aeration levels and performance which will require further investigation.
- 4.2.3. CRC173124 Condition 2 Low dissolved oxygen levels were measured in the Rangiora wastewater treatment ponds 1A and 3. This is considered likely due to a faulty meter and failed calibration issue that has now been addressed. However recent non-compliant samples indicate likely ongoing issues with the optical meter sampling location or pond aeration levels and performance which will require further investigation.

Staff are investigating the WWTPs pond performance and reviewing DO sampling location and methodology to ensure accuracy of the results.

4.2.4. Missed Samples

4.2.5. CRC041162.2 Condition 9 – Full compliance for all sampling and environmental limits for parameters measured by laboratory samples was achieved, however only partial compliance for field data measures was achieved due to some missed sample data (pH, DO and temperature). A number of weekly field samples were not collected or not able to be recorded due to the online field form failing to submit the data to the server (data outage) or due to an issue with the on-line form data entry field which has now been corrected.

Staff are working on improving existing sampling recording processes to minimise data outage issues in the future.

- 4.2.6. CRC041049 Condition 2 One set of missed groundwater depth sample from July 2023 field sample, note that the physical sample was collected and sent to the lab for analysis however the depth measurements for the up-gradient and down-gradient bores were not recorded.
- 4.2.7. CRC168391 Condition 10 One set of missed groundwater depth sample from July 2023 field sample, note that the physical sample was collected and sent to the lab for analysis however the depth measurements for the up-gradient and down-gradient bores were not recorded).

Staff are working to improve and document operational procedures to ensure that process knowledge is not loss when there is staff changeover and avoid missed sample issues.

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 2023-24 monitoring period. There were non-compliances relating to temporary overflow of the wet weather holding pond during the July 2023 weather event which also caused an exceedance of the 10day hydraulic retention time limit, and issues with the lack of monitoring data to clearly demonstrate that the depth limit for effluent application at the irrigation field had been achieved.

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 had a minor spill on 26 and 27 July 2023 and the hydraulic retention 10 day timeframe limit was also breached.
CRC184787	To discharge contaminant into land to water	Mostly compliant, lack of SCADA data for irrigator 2 prior to 9 April 2024 overstates the effluent to land application depth through Irrigator 1.

4.4. **Oxford Sewer Scheme non-compliances**

4.4.1. Wet weather holding pond issues

- 4.4.2. CRC144561 Conditions 12(b) and 13 Temporary overflow of the wet weather holding pond occurred on 26 and 27 July 2023 (resulting in overflow volumes of 28.9m³ and 5.85m³ respectively) due to the rain event in July 2023. The overflow was contained within the WWTP site.
- 4.4.3. Even though the rain event was not calculated to be a significant rain event (i.e. ~1 in 7 year event), due to the event being part of a series of smaller rainfall events that lasted over 6 days with a combined total rainfall of 133mm, there was a larger than expected impact on the WWTP caused by the cumulative rainfall.
- 4.4.4. The 10-day hydraulic retention time limit of the holding point was also exceeded by 14 days (24 days in total). Even though the pond commenced draining between events it did not drain fully, meaning that even though the events individually were not overly significant, cumulatively the 6 days of rainfall effect on the holding pond was that ponding occurred for more than 10 days.
- 4.4.5. 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.

4.4.6. Irrigator Issues

4.4.7. CRC184787 Condition 13 – It was not possible to demonstrate that the depth of effluent application was not exceeded due to lack of monitoring data from Irrigator 2 (western irrigator) overstating of the depth of effluent application by Irrigator 1 (eastern irrigator).

- 4.4.8. Irrigator 2 was damaged in early 2021 due to a strong wind event and was only replaced in September 2022. Between the period of June 2022 and September 2022, a temporary irrigation system using k-lines was deployed to apply effluent to the western irrigation field. There was only monitoring data available for Irrigation 1 to calculate the depth of effluent application during this monitoring period. Staff had difficulty getting support from the irrigator supplier to assist with getting Irrigator 2 connected to SCADA which led to monitoring data being unavailable.
- 4.4.9. Staff have worked on getting the western irrigator (Irrigator 2) connected to SCADA (completed in April 2024) and there is further work to install additional flow monitoring equipment at the Oxford Irrigator site this financial year which will improve monitoring data collection to demonstrate compliance with the depth limit for effluent application at the irrigation field. Once this work is complete, the scheme is expected to be fully compliant.

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. <u>COMMUNITY VIEWS</u>

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū will be interested in the findings of the Ocean Outfall Compliance Report 2023/24, 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.

There have also been a number of members of the public who have been interested in the performance of the Kaiapoi WWTP and have raised concerns in the past with Elected Members and the Waimakariri Zone Committee. A copy of the Annual Compliance Monitoring Report will be made provided to Waimakariri Zone Committee 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.

Once the work to install flow monitoring to the existing irrigators has been completed this financial year, the scheme is expected to be fully compliant. There is existing budget to complete this work.

6.2. Sustainability and Climate Change Impacts

The recommendations in this report do not have sustainability and/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 not health and safety risks arising from the adoption/implementation of the recommendations in this report.

7. <u>CONTEXT</u>

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 2023 - 2024

Waimakariri District Council

Date 15 August 2024



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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/m³	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
m³/day	cubic metres per day
Ν	number of samples
nitrate-N	nitrate nitrogen
NIWA	National Institute of Water and Atmospheric Research
РСВ	polychlorinated biphenyls
РАН	polycyclic aromatic hydrocarbons
pfu	plaque forming units
SCADA	supervisory control and data acquisition



TN	total nitrogen
ТР	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 2023/24 monitoring year.

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	Complies with all environmental limits. Note- several field data samples were missed during sampling of the Ocean Outfall pipeline discharge (condition 9(a)).
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	Complies. Note - missed one groundwater bore water depth field sample in July 2023.
CRC168391	To discharge treated sewage effluent via seepage onto land (Woodend)	Refer to Section 4.0 of this report	Complies. Note - missed one groundwater bore water depth field sample in July 2023.
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, below required minimum environmental

Table 1: Eastern District Sewer Scheme Resource Consents

			limit. Sampling locations and 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	Non – compliance, low Dissolved Oxygen levels in several ponds below required minimum environmental limit. Sampling locations and pond performance being further investigated.

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. Figure 1 below shows the location of the District Ocean Outfall pipeline and individual WWTP sites.





2. CRC041162.2 – DISCHARGE FROM OCEAN OUTFALL

2.1. Overview

Consent compliance for the period 1 July 2023 through to 30 June 2024 ('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.

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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 still 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 2023/24 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 36,789 m³/day (this was the highest discharge flow recorded during the year, on 24 July 2023) and remained well below the consent limit.



Figure 2. Daily discharge volumes to ocean outfall July 2023 to June 2024





Figure 3. Maximum instantaneous daily discharge rate between July 2023 to June 2024

Figures 2 and Figure 3 above show the ocean outfall daily discharge volume remained consistently below the consent limit of 57,000 m³/day and instantaneous flow remained below the limit of 660 l/s. As a result compliance with Condition 2 was met in full.

It is noted that due to a failure of the Kaiapoi Wastewater Treatment Plant outflow meter, discharge records from the Kaiapoi discharge pump station were not available from 1 to 6 July 2023 (this meter was repaired as at 6 July 2023).

The missing flow meter data has now been inferred from the Kaiapoi plant output pressure data from the discharge. Pressure and flow data from before and after the failure of the flow meter at Kaiapoi (see APPENDIX A2) was used to model the relationship between output pressure and flow. This model was then used to estimate the output flow rate for the period of this flow meter outage. The comparison between the inferred data and missing data in the graphs indicates compliance with the instantaneous flow limits during this meter outage period.

For instance, for the period 1 - 6 July 2023 the model results show that at times when the output pressure at the Kaiapoi EDS was measured the flow rate estimate is in the range of between 200 - 250 l/s (an equivalent estimate of instantaneous flow). This indicates the combined Woodend and Kaiapoi EDS flows during this period were similar to outfall discharge rates in preceding and following months. This can be seen in a comparison of the flow rate estimate in the attached spreadsheet (APPENDIX A2) with the above Figure 3.

Raw data for both graphs in the attached "APPENDIX A1: Ocean Outfall Flow Analysis Figures 2024", was corrected from 22 June to 30 June using data in APPENDIX A3 (data recovered from a failed Woodend wastewater plant outflow meter using the PLC gauge).



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 pHunits*
 - ii. Dissolved oxygen reported as % saturation
 - iii. Temperature reported as °C
 - *iv.* Five-day biochemical oxygen demand reported as g O/m³
 - 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/ m³
 - 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 asg/ m³
 - viii. Mercury reported as g/ m³

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/ m³
 - 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 six monthly intervals, 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/m³	25
Total suspended solids	g/m³	200
Ammoniacal nitrogen	g/m³	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 2023 and June 2024 are summarised in Table 5, alongside results from the previous monitoring periods (July 2021 – June 2022 and July 2022 – June 2023). Dissolved Oxygen (% saturation) was added for the first time in this annual report. Each of these results are discussed by parameter below.

Physiochemical sample frequency monitoring requirements for field pH, DO (g/m3) and DO (% saturated) had deficient data during the 2023/24 period. A number of weekly field samples were not collected, or not able to be recorded due to the online field form failing to submit the data to server



(data outage) or due to an issue with the on-line form data entry field which has now been corrected. Field data available for 2023/24 is summarised in the table and graphs below and provided in APPENDIX B "Ocean Outfall Field Data".

Parameter	July 2023 to June 2024		2024	July 2022 to June 2023		July 2021 to June 2022		Consent Limit
	Samples	Median	Range	Median	Range	Median	Range	
Laboratory pH (unit less)	52	7.9	7.5-9.3	7.9	7.6 – 9.7	7.9	7.6-9.4	
Field pH (unit less)	39	7.7	7.16 – 9.42	7.63	6.0 – *16.05	7.1	6.4 - 8.45	
Field DO (g/m³)	39	0.55	0.02 – 8.83	1.3	0. 0– 14.7	7.83	0.0-14.03	
Field DO (% Saturation)	39	4.9	0.2 – 72.4	-	-	-	-	
Field Temperature (°C)	53	14.1	4.9 - 22	14.3	4.3 – 22.1	14.15	3.1 – 25.6	
TSS (g/m³)	52	38	8-102	34	12 - 139	40	8-91	200

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

*Likely meter reading error or data entry error



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Laboratory measured pH and field measured pH in 2023/24 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 2024





Figure 5: pH (field probe) of the ocean outfall discharge between October 2020 to June 2024

Dissolved oxygen

Dissolved oxygen (DO) concentrations in the Ocean Outfall discharge were trending downwards in the last two 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), although some weekly samples were not taken or recorded correctly in the 2023/24 year for reasons explained above. 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 June 2024.



Figure 7: Dissolved oxygen concentrations (% Saturation) in the Ocean Outfall discharge between October 2020 and June 2024.



Temperature

Temperature data showed typical seasonal variation (Figure 7). The annual temperature range in 2023/24 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 7. Temperature of the ocean outfall discharge between October 2020 and June 2024



Total suspended solids

There was no exceedance of the consent limit for TSS (200 g/m³) over the 2023/24 monitoring period of 52 samples (Figure 8), with the maximum reading during this reporting year of 102 g/m³ 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 2023/24 of 38 g/m3 compared with 34 g/m3 and 40 g/m3 in the previous two years). 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 8. Total suspended solids in the ocean outfall discharge between January 2022 and June 2024.



2.3.3. Biochemical oxygen demand

Biochemical oxygen demand (BOD) results for the 2023/24 monitoring period were similar to those recorded during 2022/23 (Table 6), ranging in the current year from 8 g O^2/m^3 to 45 g O^2/m^3 , compared with 9 g O^2/m^3 to 43 g O^2/m^3 in the previous year.

The soluble BOD results were similar in the 2023/24 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 species to feed on. This generally signifies good water quality is available for aquatic organisms in the receiving environment.

As dissolved oxygen is typically inversely proportional to biochemical oxygen demand, it seems the low BOD observed in the Ocean Outfall discharge should be indicative of high dissolved oxygen recorded with the field probes. It is possible that the above apparent decline in the dissolved oxygen reported with the field devices implies an issue with the meters / devices used in the field (e.g. with sample location, or indicates a performance issue with the treatment ponds which is now being further investigated).

Species		July 2023 to June 2024		July	Consent Limit	
	Samples	Median	Range	Median	Range	
BOD₅ (g O2/m3)	52	20	8-45	20	9- 43	
Soluble BOD5 (g O2/m3)	52	3.1	0.9-5.4	4	2 - 6	25

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



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311012021

81022022



23/08/2023

11012023

18/04/2024

21012224

A111202A

01012024

Figure 9: Five-day biochemical oxygen demand of the ocean outfall discharge January 2022 - June 2024.

151031012

5122222

2108/2022

19105/2022



Figure 10. Soluble five-day biochemical oxygen demand of the ocean outfall discharge from January 2020-June 2024



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 2023/24.

Parameters	Samples	July 2023 to June 2024		July 2022 to June 2023		July 2021 to June 2022		Consent Limit
	Ν	Median	Range	Median	Range	Median	Range	
Dissolved inorganic nitrogen	52	17.1	1.14 - 28	14.9	0.035-23	12.8	1.07-30	
Ammoniacal-N	52	15.7	1.13 - 27.6	12.4	0.024-23	11.6	0.082 - 30	27*
Total nitrogen	17	19.6	8.2 - 33	13.2	8.9-20	17	6.1- 30	
Dissolved reactive phosphorus	52	4.8	2.2 - 8.2	4	0.7-9.2	4	1.37 – 9.2	
Total phosphorus	18	5.75	3.7 - 300	5.2	2.7 - 8.3	5	3.2-9.7	

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

Note: * No more than 16 values to exceed limit in the 26-week period beginning 1 May and 1 November. N: number of samples.

The dissolved inorganic nitrogen results shown in Figure 11 below, indicate seasonal fluctuation with a decrease throughout the summer months and seasonal peaks each winter. There is a slightly reducing trend in the winter peaks recorded since 2020 but conversely, a slight increase in the median recorded DIN levels since 2021. There is no consent limit for DIN.







In general the Ammoniacal-N (NH₄) (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 a slight increase in the median level of ammonia recorded since 2021. During the 2023/24 year there were two 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 2023/24 year within each 26 week monitoring period, therefore the consent condition was achieved.



Figure 12. Ammoniacal-N concentrations in the ocean outfall discharge between January 2020 and June 2024



Total nitrogen (TN) concentrations over the 2023/24 monitoring period show a consistent seasonal trend over the last two years of sampling (Figure 13 below). There is no consent limit for TN.



Figure 13. Total nitrogen concentrations in ocean outfall discharge between September 2022 and June 2024



The monitoring results for dissolved reactive phosphorous (DRP) and total phosphorus (TP) are shown in Figures 14 and 15. The pond performance and algae species and numbers remained stable during the 2023 -24 period. There are no consent limits for DRP or TP. The median DRP was similar between 2021/22, 2022/23 and 2023/24 (measuring 4g/m³ to 4.8g/m³).





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 15. Total phosphorus concentrations in ocean outfall discharge between September 2022 and June 2024



Total metal and metalloid concentrations from February 2015 until June 2024 are shown in Figure 16 below. These metals are required to be sampled twice a year however 6 samples of each parameter were taken during the 2023/24 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.

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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 16 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 2023/24 or in any earlier period. A group of low results at the bottom of the graph also indicate that the 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.





2.3.5. Metals and 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 2024



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 2023/24 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 2023/24 is summarised in Table 8 and is compared with the previous year (2022/23) (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 well below the standard consent limit for each parameter, for every sample.

The graphs on the following pages show faecal coliform and enterococci numbers below relevant seasonal consent limits over the full 2023/24 monitoring period. Hence full compliance with Condition 12 was achieved for these parameters during 2023/24. There were lower median sample levels recorded for each parameter during 2023/24 than in the preceding year as shown in the below table. The 2023/24 sample levels for each faecal indicator type were within their historic range, with fewer peaks and lower overall median values.

Indicator	July 2023 to June 2024			July 2022 to June 2023			Consent Limit	
	Ν	Median	Range	Ν	Median	Range	Standard	High
Faecal coliforms (summer: Nov-Feb)	17	30	20-270	18	150	10-410	1,000	5,000
Faecal coliforms (winter: March - Oct)	35	40	2 -1300	34	115	10-2000	9,000	20,000
Enterococci	52	20.2	10-388	52	52	10- <mark>24,200</mark>	500	1,500
E. coli	52	30	1-900	52	90	10-1,400	-	-

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

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.

The faecal coliform samples taken from January 2020 until July 2024 are graphed separately below for summer and winter samples against their respective consent limits. As seen in the graphs, on no occasion over this reporting period were either the standard or high consent limits breached for faecal coliforms during either summer or winter.

For E.coli, the below graph of results from 2020 to 2024 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.



For enterococci, the resource consent allows for six out of eight consecutive samples to exceed the standard limit, and two out of eight consecutive samples to exceed the high limit. There were no occasions during 2023/24 when any enterococci sample exceeded the standard limit. This compares with the previous year when there were only three occasions out of a total of 52 samples through 2022/23 when the enterococci value exceeded 500 cfu/100mL, and only two occasions through the year when samples exceeded the 1,500 cfu/100mL "high" limit and these were not consecutive.

The Council believes a likely cause of the individual enterococci spikes in previous years 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.



Figure 18. Faecal coliforms in ocean outfall discharge between January 2020 and July 2024 (winter samples only)



August 2024



Figure 19. Faecal coliforms in ocean outfall discharge between January 2020 and July 2024 (summer samples only)



Figure 20. Enterococci in ocean outfall discharge between January 2020 and July 2024





Figure 21. Escherichia coli in ocean outfall discharge between January 2020 and July 2024



2.3.7 Human pathogens

The results for the 2023/24 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 240404052732 – APPENDIX EI and TRIM 240520080438 – 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 2023/24. When sampled, human enterovirus and adenovirus were below their respective MDL during the 2023/24 monitoring period (see APPENDIX E2). There are no consent limits for human pathogens.

Table 9: Human pathogens in ocean outfall discharge.

Pathogen	March 2024	March 2023	March 2022	March 2021
Human enterovirus (pfu/10 L)	Not detected	Not detected	Not detected	Not sampled
Human adenovirus (iu/10 L)	Not detected	Not detected	Not detected	<10
Campylobacter	Detected	Detected	Not detected	Detected
Salmonella spp. (/500 mL)	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 2024 (TRIM 240404052732 – 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 2024 sampling.

2.3.9 Summary

Overall, requirements of conditions 9 - 12 have been fully met apart from partial compliance with field sampling data collection. 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
- . A small increase in the median for DIN and Ammonia in recent years
- A reduction in median values for faecal indicator bacteria and no exceedances of any limits
- Some field samples were missed (field pH, Dissolved Oxygen g/m3 or % saturation) in the 2023/24 year due to integration issues with field data reporting in the new Infrastructure Data system which should all now be resolved
- 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

2.4.8 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 2023/24 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.

2.4.9 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 2024







Figure 23: Enterococci at Woodend Beach, Pines Beach and Waimakariri River Mouth between January 2020 and July 2024

Table 10: Microbiological monitoring results for Woodend Beach, The Pines Beach and Waimakariri River Mouth July 2023 – June 2024

Indicator	Woodend Beach		The Pines Beach			Waimakariri River Mouth		
	N	Medi	an (range)	Ν	Me	dian (range)	Ν	Median (range)
Faecal coliforms (cfu/100 ml)	53	4	(0-510)	53	7	(0-900)	53	78 (0-3,300)
Enterococci (MPN/100 ml)	53	0	(0-213)	53	0	(0-379)	53	41.3 (0-479.8)

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.

2.4.10 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 2023/24 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.

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During the 2023/24 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 APPENDICES Q1-Q4).

There were no complaints relating to the Ocean Outfall received for the 2023/24 monitoring period.

These Appendices did however identify a number of odour issues on private properties or issues with WDC assets on adjoining streets which have subsequently 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 2023/24 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 plants have performed well in the 2023/24 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.

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 for parameters measured by laboratory samples; partial compliance for field data measures due to some missed samples or possible faulty Dissolved Oxygen probes or pond performance issues to be further investigated.
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	Full compliance

Table 11: Summary if compliance for 2023/24 for consent CRC041162.2.



3 CRC041049 – DISCHARGE FROM KAIAPOI WWTP

3.3 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 2023/24 monitoring period (refer to Table 12). Therefore, the three-monthly sampling requirement was met.

3.4 Groundwater Monitoring Results

3.4.8 Nutrients

Nutrient concentrations in the five bores for the 2023/24 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.

Data correction has been required for WDC1 and WDC3 for the July 2023 sample as results were inconsistent with previous and subsequent sample data. A confirmed "swap" of results in raw data had occurred due to a previous site map (now revised – see above) which did not clearly align with pre-set laboratory container labels. This has been subsequently corrected in the above revised site map, below table, graphs and supporting spreadsheet (APPENDIX H). Nitrate-N results show low detection levels in all monitored bores. Ammoniacal Nitrogen results show higher ammonia concentrations in the down-gradient "effects" bores.

Table 12: Nitrate-N and ammoniacal-N concentrations in Kaiapoi WWTP groundwater monitoring bores: 1 July 2023 until 30 June 2024

Bore	Nitrate-nitrogen (g/m ³)				Ammoniacal-nitrogen (g/m³)			
	Jul 23	Oct 23	Jan 24	April 24	Jul 23	Oct 23	Jan 24	April 24
WDC1 (control)*	0.0067	< 0.002	< 0.002	< 0.002	<0.010	< 0.010	0.0104	0.034
Bore A Ferry Road (control)	0.01	< 0.002	< 0.002	< 0.002	0.0535	0.0688	0.0753	0.113
WDC2 (effect)	0.0104	< 0.02	0.0185	< 0.002	7.45	11.6	10.79	12.8
WDC3 (effect)*	0.0089	< 0.002	< 0.02	< 0.002	6.17	9.03	14.4	16.5
Bore B Clifford Road (effect)	< 0.002	< 0.002	<0.02	0.008	2.72	6.23	7.73	8.4

*data correction has been applied to these items in the table and supporting Appendix H spreadsheet data for WDC1 and WDC3 for the July 2023 sample to reconcile bore locations with site maps and sample labels.

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)	Kajapoj Bore 3

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

Clifford Road



Bore B Clifford Road (effect)







Figure 25: Nitrate-N concentrations in Kaiapoi WWTP monitoring bores between 2018 and 2024

There are low levels of detection and no trend apparent in detections or levels of Nitrate-N in Kaiapoi groundwater bores between 2018 and 2024.









Figure 26: Ammoniacal-N concentration in groundwater monitoring bores from 2018 – 2024

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 – 9 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 2024 and there is no increasing trend.



3.4.9 Faecal indicator bacteria

E. coli and faecal coliform numbers measured during sampling in 2023/24 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 a unique "one-off" event.

Data correction has been applied for the July 2023 sample for WDC 1 which is considered to have been swapped with WDC 3 results, therefore data correction of results has been undertaken in the graphs, table and spreadsheet.



Bore	Escherichia coli (cfu/100mL)			Faecal coliforms (cfu/100 mL)				
	Jul 23	Oct 23	Jan 24	April 24	Jul 23	Oct 23	Jan 24	April 24
WDC1	<1	<1	<1	<1	<1	<1	<1	<1
(control)*								
A Ferry Road	<1	<1	<1	<1	<1	<1	<1	<1
(control)								
WDC2 (effect)	4	<1	<1	<1	4	<1	<1	<1
WDC3 (effect)*	7	1	13	5,400	139	1	13	5,400
B Clifford Road (effect)	1	<1	6	<1	1	<1	6	<1

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

*Data correction has been applied to WDC1 (control) and WDC3 (effect) bores for the July 2023 result as discussed above.







Figure 27: Escherichia coli in Kaiapoi WWTP monitoring bores between 2018 and 2024







Figure 28: Faecal coliforms in Kaiapoi WWTP monitoring bores between 2018 and 2024

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 2024 for each parameter sampled. Figures 27 and 28 show all data reported for each site and parameter is within its historical range.

3.5 Condition 6 – Operating and Reporting

There were no major works undertaken at the Kaiapoi WWTP in the 2023/24 monitoring period. No major maintenance of the plant facilities was required or undertaken in the 2023/24 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, 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 the service request system and staff working directly with neighboring residents. A report to Council from Sophie Allen, Water Environment Advisor, summarises recent midge management activities up until mid-2022 and discusses proposed ongoing actions from that time which are still underway at present (see APPENDIX I).

An investigation of insect complaints received by the Council through the service request system was also undertaken for the period 1.1.19 until 13.06.24 (email from Maree Harris Customer Services Manager dated 13 June 2024 TRIM 240627104472) 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. 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.

An integrated midge management plan for the control of *C. zealandicus* 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. A draft summary of key proposals to be incorporated within this plan is provided here:

Method	Description	Frequency
Baseline survey	Larval counts and yellow sticky traps on and around bodies of water onsite and surrounding waterbodies	Larval counts – 1 round during high midge densities Yellow sticky traps – Checked 5 days in a row
Routine monitoring	Kaiapoi WWTP: Yellow sticky traps around bodies of water onsite Woodend WWTP: Emergence traps or yellow sticky traps	Weekly for at least 5 months (Sep-Jan)

Summary of Midge Management Plan Methods:



	around bodies of water onsite.	
	Optional larval counts	
Complaint monitoring	Recording and compilation of	Annual reporting and as
	Service Request and any other	required
Vegetation corponing	Nostern sides of Kajanej and	Kaianai W/W/TD: To be planted
vegetation screening	Western sides of Kalapoi and	
		Woodend WW/TP: Planted
		2022-24
Larvae control via physical	Dredging of midge larval	Fortnightly over spring and
disturbance	habitat in the bed	summer months
Kaiapoi WWTP only		Commence when routine
		monitoring indicates an
		average of ≥2 midges/day per
Adult control with oil	Control of omorgant adults by	yellow sticky trap
Surfactant	coating wings with oil	monitoring indicates an
Woodend WWTP only		average of >2 midges/day per
		vellow sticky trap/emergence
		trap
Larvae control with Bti	Bio-control with bacterium	As required from routine
Woodend WWTP only	Bacillus thuringiensis	monitoring. Commence when
	<i>israelensis</i> (Bti)	over an average of ≥10 midges
		per larval count or an average
		of ≥5 midges/day per yellow
		sticky traps
Larvae control with insecticide	S-methoprene dosing of water	Fortnightly to monthly over the
- OPTIONAL	the bank	spring and summer months
Adult control with insecticide-	Establish native vegetation 'kill	Establish vegetation 'kill zones'
OPTIONAL	zones' where contact	at Kajapoj WWTP on the
Kaiapoi WWTP only	insecticide is sprayed	western side 2025-27
		Fortnightly to monthly over the
		spring and summer months –
	Spray vegetation with	when vegetated kill zones
	etofenprox rotated with	established
	spinetoram (Yates Success	
	Ultra Insect Control)	

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 3 sample visits are provided in the attached spreadsheet for 3 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. This was an omission which occurred during a change in staff responsible for undertaking the bore water sampling. However the required information is now being collected and recorded in ID and it will continue to be recorded in future.

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.

3.6 Summary of Compliance – CRC041049

Consent condition	Description	Compliance
Condition 2	Groundwater monitoring	Compliant. Note - missed one groundwater depth July 2023 field sample).
Condition 6	Annual reporting	Full compliance

Table 15: Summary of compliance for 2023/24 under CRC041049.

4 CRC168391 – FROM WOODEND WASTEWATER TREATMENT PLANT

4.3 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.





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

Resource consent compliance for the period 1 July 2023 to 30 June 2024 (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.

4.4 Conditions 5 – 6: Seepage

4.4.8 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.

Gladstone Road SPS

Petries Road SPS



Figure 31: Daily inflow volumes July 2023 – June 2024 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 2023/24 monitoring period are shown in Figure 32. Flow data for the Woodend WWTP is available in APPENDIX K and corrected from 22 June to 30 June 2024 using data in APPENDIX A3 (data recovery from a failed Woodend wastewater plant outflow meter using PLC gauge).



Figure 32: Daily outflow volumes (m³/day) from Woodend WWTP to ocean outfall July 2023 to June 2024

4.4.9 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)





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Figure 33: Calculated daily seepage volumes (m³/day) July 2023 to June 2024

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 2023/24 monitoring period WDC has generally complied with the daily seepage volume consent limit of 1,000 m³/day with only two apparent exceedances. The calculated seepage volumes using the method prescribed in the consent apparently exceeded the consented limit on 23 July 2023 and on 5 October 2023 (refer Figure 33) which are further discussed below. However, the attached spreadsheet APPENDIX K "Copy of Woodend EDS Seepage Figures" shows Woodend WWTP weekly inflow / outflow totals had a net loss of combined seepage / evaporation of up to only 2,407m3 per week. This is less than the seepage weekly total consent limit of 7,000m3 per week (1,000m3 per day over 7 days). It is also noted there is an inaccurate flow meter at the Gladstone pump station outfall which began losing accuracy (shown in reducing flow volumes in the graphs and APPENDIX K raw data) from the start of April 2024. WDC is now in the process of replacing this damaged flowmeter. This has caused the reduced "inflow" volumes shown from April 2024 onwards in the above graphs.

For the 23 July 2023 "daily seepage event", this occurred on a day with a rapid high plant inflow followed by a more gradual plant outflow (refer Figures 31 and 32). Although most of the inflow was able to pass through the plant to discharge on 23 July, some of the inflow volume was stored and discharged more slowly to the Ocean Outfall over subsequent days. This can be seen in Figure 32 where the outflow level gradually subsided back to its usual level after 23 July. This is considered to represent a high storage period/event in the ponds prior to release of all of the inflow on 23 July, rather than a seepage event on that date. This is a common occurrence following periods of significant rainfall.



For the 5 October event, this appeared to be preceded by a significant drop in outflow on 5 October, meaning that storage in the ponds increased and was subsequently released by 7 October, as shown in Figure 32. This event occurred during a sudden drop in discharge volume because of pump operation and pond water level buffering during that day. The inflow graph shows there was no corresponding variation of plant inflow from usual levels at the beginning of October 2023. This result is considered an outlier in terms of pump cycles and volume discharged and is considered unlikely to represent a material seepage to ground.

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For these two events the difference between the inflow and outflow under these conditions is due to a temporary (around 24 hour) increase in storage levels within the ponds and wetlands rather than any actual discharge to land via seepage. The data indicates the timeframe of conveyance of effluent through the plant between the inlet and outlet during the treatment process. The seepage data also shows the progression of effluent through the plant as the calculated seepage rates became very low (or "drop off" altogether) over the days immediately following the exceedance events.

The data indicates that on average over the 2023/24 monitoring period verified, actual compliance with the daily seepage volume consent limit has been achieved.

4.5 Conditions 9 to 11 – Groundwater Monitoring

4.5.8 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 $(2 \text{ m}^3/\text{day})$ from the Woodend water supply.

4.5.9 Depth to groundwater

Depth to groundwater was measured in the south-east and west bores on 3 occasions during the 2023/24 monitoring period (Table 15) (APPENDIX L). One depth to groundwater measure was missed in July 2023 due to a staff changeover. Therefore, compliance with Condition 10 was mostly met.

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.

4.5.10 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 34 to 36 and summarised in Table 15 below (see raw data in APPENDIX M). There are no consent limits for these parameters.

Sample	Bore	Top	Ammoniacal-	Nitrate-	Faecal
		level	N (8/111)	N (g/11)	(cfu/100ml)
		(m)			(0.0, 200111)
27 July 2023	McKenzie (up- gradient)	N/A	<0.010	0.0110	<1
	Robinsons (up- gradient)	N/A	< 0.010	0.0181	5
	West (up- gradient)	Missed sample	1.039	<0.02	<1
	South-east (down- gradient)	Missed sample	< 0.010	84	<1
13 October 2023	McKenzie (up- gradient)	N/A	<0.010	<0.002	<1
	Robinsons (up- gradient)	N/A	<0.010	<0.002	190
	West (up- gradient)	3.00	1.072	<0.10	<1
	South-east (down- gradient)	2.45	0.540	28.2	<1
31 January 2024	McKenzie (up- gradient)	N/A	<0.010	<0.002	<1
	Robinsons (up- gradient)	N/A	0.0162	<0.002	<1
	West (up- gradient)	3.55	1.012	0.0282	<1
	South-east (down- gradient)	2.95	0.0458	72.6	<1
15 April 2024	McKenzie (up- gradient)	N/A	<0.010	<0.002	<1



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	Robinsons (up- gradient)	N/A	0.013	<0.002	<1
	West (up- gradient)	3.70	1.01	<0.02	<1
	South-east (down- gradient)	2.60	1.98	8.2	<1
26 July 2024	McKenzie (up- gradient)		< 0.010	< 0.002	< 1
(latest sample –	Robinsons (up- gradient)		< 0.010	< 0.002	< 1
after 2023/24 annual reporting	West (up- gradient)		0.94	< 0.02	< 1
period)	South-east (down- gradient)		3.0	0.014	< 1



Figure 35: Ammoniacal-N concentration on groundwater monitoring bores from 2018 to 2024

Ammoniacal-N concentrations between 2018 and 2024 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 2024

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 July 2024 sample. 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 sample on 4 March 2024 shows Nitrate-N not detected in the bore drinking water (TRIM 240325046751 – see APPENDIX 0).

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.





Figure 37: Nitrate-N concentration in groundwater monitoring bores from 2018 to 2024

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



Figure 38: Faecal coliforms numbers in groundwater monitoring bores from 2018 to 2024

4.6 Operations and Maintenance

During the 2023/24 monitoring period there were no major capital works. The plant operation and maintenance has been standard with no significant unplanned maintenance required.



4.7 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 2023/24 monitoring period met the requirements of Conditions 5 and 6.

Groundwater monitoring records for 2023/24 were mostly complete, with groundwater depth levels (at the two bores where it is possible to take readings) collected during sampling from October 2023 onwards. Water quality samples were collected on four sample dates at all bores. Therefore, the requirements of Conditions 9, 10 and 11 were met almost in full.

The groundwater monitoring undertaken in 2023/24 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 in other years. There is a longterm 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 has elevated levels compared to the upgradient bores although the recent spike has dropped back to low levels in the July 2024 sample. On review of data over an 18 year period the concentrations of Nitrate-N have fluctuated with a recent spike during 2022/23 and 2023/24 which appears to be currently significantly reducing.
- Prior to 2009 Nitrate-N levels were even higher than at present at up to 100 g/m³ (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

5.3 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 2023/24 monitoring period.

6 CRC145027 – DESLUDGING AT RANGIORA WASTEWATER TREATMENT PLANT

6.3 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.

6.4 Monitoring Results

6.4.8 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.

6.4.9 Three monthly inspections

Inspections of the sludge pond are done on a weekly basis, which is more regular than the threemonthly 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 2023/24 monitoring period.

6.4.10 Laboratory analyses

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

- 30 August 2023 (TRIM 230911141262 and TRIM 230911141271)
- 28 March 2024 (TRIM 240410056253 and TRIM 240417061082)

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 2023/24 monitoring period. The table below shows that trigger levels were not exceeded for any of the discharge values from the pump chamber.

Parameter (g/m ³)	30 August 2023	28 March 2024	Trigger Levels ¹
Dissolved Arsenic	<0.02	<0.02	0.2
Dissolved Cadmium	0.0191	0.0089	
Dissolved Chromium	< 0.010	<0.010	
Dissolved Copper	1.14	0.63	
Dissolved Lead	0.0090	0.006	
Dissolved Mercury	<0.00008	<0.00008	
Dissolved Nickel	0.1142	0.069	1.6
Dissolved Zinc	8.52	4.0	30
Total Nitrogen	37.5	27	224
Ammoniacal-N	7.41	0.039	30
Dissolved Reactive	< 0.04	0.007	
Phosphorus			

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

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



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 2023/24 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 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.

Paramete r	31 st August 2021	1 April 2022	30 th Aug 2022	28 th Feb 2023	30 August 2023	28 March 2024	80% of MAV ²
рН	7.1	7.5	7.5	7.3	7.3	7.4	7.0-8.52
Total Nitrogen	0.85	0.93	0.47	1.21	0.91	0.98	-
Ammonia cal-N	<0.010	<0.010	0.052	<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	0.0021	<0.0010	<0.0010	<0.0010	< 0.0010	< 0.0010	1.2

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

6.4.11 Spills

There were no spills during the 2023/24 monitoring period.

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



6.5 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.

6.6 Summary Compliance – CRC145027

The monitoring and sampling results completed during the 2023/24 monitoring period fully comply with Conditions 16 and 17.



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 2023 to June 2024

The 10 percentile of annual results for each pond for the 2023/24 reporting year is (including both optical and handheld meter 7 July 2023 – 27 June 2024):

0.21 mg/L	Pond 1A
0.26 mg/L	Pond 1B
0.21 mg/L	Pond 2
0.24 mg/L	Pond 3

The recalculated 10 percentile of annual results of each pond post correction with optical meter in use from 8 December 2023 - 11 July 2024):

0.46 mg/L	Pond 1A
4.67 mg/L	Pond 1B
6.89 mg/L	Pond 2
0.32 mg/L	Pond 3

All pond results were below the bottom limit of 2 for the 10 percentile of annual results for the full 2023/24 year of data. None of the ponds met the 10 percentile for annual results measure of no less than 2mg/L of Dissolved Oxygen (see APPENDIX N for raw data records).

The data shows Conditions 2 has not been met. There was a known issue with the calibration of the meter primarily used to measure Dissolved Oxygen in the Woodend ponds which is assumed to have also affected the Rangiora ponds Dissolved Oxygen results, which has now been addressed. The wastewater sampling operator identified an issue with poor calibration and out of date portable probes (meters). Email correspondence on 12 December 2023 noted:

"Apologies about the poor results. After being notified that they were very low I have looked into it and found the old Handheld units we are using are not reading correctly. We have now started using



a new optical version since the 7th of December. All results from now on should be a lot more accurate as you will see quite the jump up from the previous week".

Within APPENDIX N non-compliant DO (mg/L) results <2 mg/L are highlighted in yellow. The start and end of the recording period and date at which the new optical meter came into use (8 December 2023) are highlighted in blue and a 10 percentile of annual results is recalculated following that date, for comparison.

Condition 3 was mostly met as most measurements of DO were taken between 11am and 2pm on the day these were measured.

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 in recent years 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 2023/24 monitoring period (see Complaints Register in APPENDIX Q1 - Q4).

7.3 Summary of Compliance

Compliance was not achieved for CRC173124 due to low oxygen levels in the Rangiora wastewater treatment ponds. This is considered likely due to a faulty meter and failed calibration issue that has now been addressed. However recent non-compliant samples in Pond 1A and 3 indicate likely ongoing issues with the optical meter sampling location or pond aeration levels and performance which may require further investigation.

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. However it does not meet the minimum dissolved oxygen levels, reporting timeframes and has low dissolved sample records for more than 3 consecutive measures in every pond, thereby not complying 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 2023/24 reporting year (including both optical and handheld meter results from 1 July 2023 – 30 June 2024) is:

0.35mg/L	Settling Pond 1
0.2mg/L	Settling Pond 2
0.041mg/L	Aeration Bason 1
0.063mg/L	Aeration Basin 2
0.26mg/L	Aeration Basin 3

The below graph indicates the relative performance of the ponds through the 2023/24 year. It appears the meters were not working properly during September to November 2023 in particular, with subsequent further errors during 2024 continuing until recently. The operators have been advised of ongoing errors with the Dissolved Oxygen meter, including apparent periodic issues with the optical meter.





As seen in these results, none of the ponds' annual sample results comply with the 10 percentile of weekly samples from annual results, which are required to be above 2mg/L of dissolved oxygen (APPENDIX P). The spreadsheet shows periods of low dissolved oxygen through multiple occasions during 2023/24. Results become marginally improved as the wastewater is conveyed through the treatment train (aeration pond 3, settlement pond 1 and 2) but are still non-compliant at these points.

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 that has now been addressed. However recent 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 2023 – 2024

Waimakariri District Council

August 2024



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1. INTRODUCTION

1.1. Background

Waimakariri District Council (WDC) operates a wastewater treatment plant (WWTP) at Oxford, which serves 905 properties as at the 2023/24 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 2023/24 monitoring year.

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 26 and 27 July 2023 and the hydraulic retention 10 day timeframe limit was breached.
CRC184787	To discharge contaminant into land to water	Refer to Section 4.0 of this report	Mostly compliant, lack of SCADA data for irrigator 2 prior to 9 April 2024 overstates the effluent to land application depth through Irrigator 1.

Table 1: Oxford Sewer Scheme Resource Consents

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.
241105192079





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 2023 through to 30 June 2024 ('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.



kg

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 were observed during the 2023/24 monitoring period (refer APPENDIX G1 – APPENDIX G4 sewer odour record 2023/24 which did not identify any odour complaints from the Oxford plant during the 2023/24 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 2023/24 monitoring period (refer Appendix G1 – G4) – sewer odour record 2023/24 which did not identify any odour complaints from the Oxford plant.

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 2023/24 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 2023 through to 30 June 2024 ('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).

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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).



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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 13 occasions during the 2023/24 monitoring period (see APPENDIX A, Figure 5a below), which is less than the 15 occasions it was used during the 2022/23 monitoring period or the 18 occasions it was used in the 2021/22 monitoring period.

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

In context for the following assessments, rainfall in the 2023/24 year is currently tracking below the long term average for the total rainfall in the last 12 months. This is a reversal of the recent trend in the two preceding years (2021/22 and 2022/23) where rainfall tracked above the long term average (see Figure 4, below).





Figure 4: Long term average rainfall for Oxford and 12 month 2023/24 rainfall

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 2023/24 monitoring period on 26 and 27 July 2023 (refer APPENDIX A - Figure 5(a) below). On 26 July the exceedance was 12mm above the pond spill level (resulting in a spillage volume of 28.9m3) and on 27 July the exceedance was 8mm above the spill level (resulting in a spillage volume of 5.85m3). Note the spill level has been recently accurately measured and therefore has increased from the level provided in the previous Oxford wastewater compliance reports. This spill level and actual spillage volume (if any) are now 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.

The spillage event was calculated to be the result of a 7 year, 4 month Return Period Event (a 24 hour total based on intensity rather than total volume, of 85mm over 24 hours). It is noted that the stated 24 hour return period event understates the impact on the Oxford wastewater system because the 7 year, 4 month event was part of a larger system that lasted over 6 days with a combined 133 mm of



rainfall over the 6 day period. This is an unseasonally large rainfall event for Oxford which led to elevated sewer flows and elevated flow through the plant for an extended period.

On most occasions during the year the holding pond was operated far 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 26 and 27 July 2023.



Figure 5(a): Holding pond level during 2023/24



Figure 5(b): Holding pond level and rainfall during 2023/24



Previous graphs provided in this report of instantaneous inflow and derived daily inflow to the holding pond are not included in the 2023/24 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 34 days from 20 July to 22 August during the 2023/24 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. In July 2023 to August 2023 when the largest spike in storage is shown in Figure 5(b), there were two distinct rainfall events through this period in quick succession.

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 24 days for the two rainfall events in the July – August period. This means the consent 10 day hydraulic retention time limit was breached following the 23 July 2023 rainfall event (see APPENDIX C attached and Table 3, below).

Although the pond commenced draining between events it didn't drain fully, meaning that even though the events individually weren't overly significant, cumulatively the 6 days of rainfall effect on the holding pond was that ponding occurred for more than 10 days (see APPENDIX C and Table 3, below).

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 and the holding pond does 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 breaching 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 also increase the risk of discharging contaminants.

Event Date	Duration of Retention (days)	Duration of Retention (minutes)
23/07/2023	24.14	34765
16/08/2023	0.02	25
13/09/2023	0.31	440
22/09/2023	0.31	445
28/09/2023	0.01	10
30/09/2023	0.00	5
30/09/2023	0.00	5
30/09/2023	0.00	5
30/09/2023	0.00	5
30/09/2023	0.02	35
17/10/2023	0.53	770
1/11/2023	0.30	435
28/11/2023	0.02	30
12/12/2023	0.01	20
8/01/2024	0.08	115
29/02/2024	0.29	420
15/03/2024	0.00	5

Table 3: Holding pond hydraulic retention times during 2023/24

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 2023/24 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 and overflow observed during the 26 and 27 July 2023 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.

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 26 and 27 July 2023 and the 10-day hydraulic retention time limit was exceeded.			
Conditions 5, 6 and 14	Holding Pond Maintenance and Monitoring	Fully compliant			

Table 4: Summary if compliance for 2023/24 for consent CRC144561

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 2023 through to 30 June 2024 ('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 11110053282), 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 2023/24 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 2023/24

The daily volume discharged did not exceed 1,382 m3/day at any time during the 2023/24 year. The highest daily volume discharged was 1,266m3 on 23 July 2023. The annual volume discharged during 2023/24 was 162,970.3 cubic metres (see Appendix D).

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 concentration rate of 11.04g/m3 in 2023/24 (see Appendix E Summary of all lab data results – Total Nitrogen - Oxford tab for raw data) compares with the average annual application rate of 12.9g/m3 measured during the 2022/23 monitoring period and of 13.1g/m3 recorded in the previous 2021/22 year and less than the consent limit application rate of 14.1g/m3.



These results are tabulated for easy reference:

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

This equates to an estimated annual application rate of 111.4kg-N/ha/year in the 2023/24 year, compared 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.

There is a decline in the average application rate observed over the last 3 years. The rate is further reduced in 2023/24 because of the lower average annual daily flow discharge rate this year of 445.3m3 compared to previous years when the average annual daily flow rates were over 500m3/day, in combination with the lower nitrogen application rate (concentration) in samples in the 2023/24 year.

The annual application rate in kg/ha/yr is calculated by multiplying the average annual nitrogen application rate of 11.04mg/L (see APPENDIX E – Summary of all Lab data Results) by the average annual daily flow rate (445.3m3/day – 445,274 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 in 2023/24 was undertaken weekly which is an increased frequency from the monthly sampling undertaken in 2022/23. This means the average nitrogen application rate recorded will be more accurate than in previous years as it is based on more regular sampling. This sampling frequency was recently increased to inform the Oxford wastewater treatment plant upgrade planning process.

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 2023/24 year the nitrogen concentration rate sampled was higher than the consent limit of 14.1 g/m3 in several of the February and March 2024 weekly samples and then again periodically through several of the April and May 2024 samples (see Appendix E – Total Nitrogen Oxford tab for raw data).

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 rate calculated from the flow and irrigator's positioning data. However there was no SCADA data available for Irrigator 2 until 9 April 2024 although this irrigator has been in operation from September 2022 onwards, following repairs completed during 2021/2022.

As there is no data for Irrigator 2 for most of the 2023/24 year, the Irrigator 1 data shown in the spreadsheet and graph shows approximately double the actual application depth to land applied each day in mm. The data also overstates the depth applied because the movement of the irrigators over



land is not consistent over time and SCADA does not record when this movement ceases at any time. The data therefore over-represents the amount discharged at times when the irrigator is moving.

Now that SCADA data recording is installed on the new Irrigator 2, this should ensure data for Irrigator 2 can be reported in future years and also Irrigator 1 records will not continue to be overstated once this data is available. There is a project to install flowmeters on the effluent discharge lines to each irrigator in 24/25 which will enable the effluent flows to each irrigator to be measured. There is also a project to replace Irrigator 1 in 24/25 which will include an upgrade to the SCADA system at the irrigator site which will provide the ability to accurately measure the depth of effluent being 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.

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 2023 /24 year. This can be seen in field records from 3 November 2023 until the present. These records are extracted from Infrastructure Data, which records and reports weekly irrigator observations by operators (see APPENDIX I). It appears that one off "unsatisfactory" reports on 3 November 2023 and 12 July 2024 were promptly resolved as indicated by satisfactory reports received during the following two weeks.

As Infrastructure Data reporting on irrigator observations only commenced in November 2023 comment was also sought from the operator which confirms there was no ponding of the irrigation fields in the preceding period July to November 2023.

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 2023/24 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. It is noted that SCADA information was not available on irrigator position and movement for Irrigator 2 so this information is incomplete.





Figure 8: Daily volume of effluent discharged during 2023/24

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 are taken from the plant, after UV disinfection and prior to discharge to the irrigation disposal fields on a weekly basis during 2023/24. 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 2023/24 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 2023/24 (cap at 200cfu/100mL)

The graph shows the majority of results during the year were below the consent limit of 500cfu/100ml. 36 out of 48 samples taken for the 2023/24 year were below the 500cfu/100mL limit. However there were 12 out of the 48 samples that were higher than the consent limit of 500cfu/100mL. In contrast, from 18 of the 48 samples no coliforms were detected at all (see Appendix E – FaecalColi Post UV tab).

Graph 9 is artificially capped at 200cfu/100mL due to the 12 significantly higher values meaning other months with lower values did not have visible data.

The results show that the discharge was compliant for the July 2023 to June 2024 year (only two samples were required to be taken for the 2023/24 year and the majority of all 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.

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 – no SCADA data was available for Irrigator
		2 until 9 April 2024 for the western field, overstating the
		depth of effluent applied to land through Irrigator 1 for much of the 2023/24 year.

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



Condition 4 and 5	Treatment Monitoring	Compliant. Total nitrogen application rates and faecal coliform sampling and results meet the consent requirements
		requirements.



WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR INFORMATION

FILE NO and TRIM NO:	WAT-03 / 241103190628
REPORT TO:	UTILITIES & ROADING COMMITTEE
DATE OF MEETING:	19 November 2024
AUTHOR(S):	Caroline Fahey, Water & Wastewater Asset Manager
SUBJECT:	Water Quality and Compliance Annual Report 2023-24
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager Chief Executive

1. <u>SUMMARY</u>

- 1.1. This report is to update the Utilities and Roading Committee on the results of the annual water quality and compliance review for the 2023-24 compliance year. The assessment is based on the Drinking Water Assurance Rules (DWQAR) that came into effect in November 2022 which are much more stringent than the old Drinking Water Standards New Zealand (DWSNZ) 2005 (Revised 2018).
- 1.2. For the 2023-24 compliance period, all supplies that had chlorine and UV treatment installed for the entire period achieved greater than 99% compliance. For the remaining supplies, full compliance was not achieved for the following reasons:
 - Lack of UV treatment barrier to meet protozoal compliance.
 - Lack of adequately sized storage to provide required chlorine contact time to meet bacterial compliance.
 - Lack of chlorination to provide residual disinfection in the reticulation (due to remaining unchlorinated urban on-demand supplies only being chlorinated from the middle of the 2nd quarter of the 2023-24 compliance year).
 - Missed samples due to scheduling and handling error which resulted in inability to demonstrate compliance 100% of the 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.
- 1.3. Staff have identified the following key improvement actions that will address the number of non-compliances received:
 - Implement UV treatment at various sites. This is currently underway with UV systems already installed at Woodend-Pegasus, Oxford

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Rural 1 and Oxford Urban / Rural 2, and expected to be installed by end of 2024 for Rangiora and Kaiapoi. West Eyreton and Ohoka are expected to be completed by June 2025 and December 2025 respectively.

- Improve reliability of the sampling process to ensure that all samples are correctly scheduled, taken and results received back from the laboratory. This is currently being worked on by 3 Waters and Water Unit staff.
- 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.

Attachments:

i. External Audit Report of Drinking Water Standards Compliance (Trim 240917159423)

2. <u>RECOMMENDATION</u>

THAT the Utilities and Roading Committee:

- (a) **Receives** Report No. 241103190628.
- (b) **Notes** that the assessment of the 2023-24 compliance year is based on the Drinking Water Assurance Rules (DWQAR) that came into effect in November 2022 which are much more stringent than the old Drinking Water Standards New Zealand (DWSNZ) 2005 (Revised 2018).
- (c) **Notes** that for the 2023-24 compliance year, all supplies that had chlorine and UV treatment installed for the entire period achieved greater than 99% compliance. The remaining supplies did not achieve full compliance mainly due to chlorination not being implemented for the entire compliance period and UV treatment not yet being installed. There were also some technical non-compliances relating to sampling and data capture issues.
- (d) **Notes** that Council's water supplies will not be fully compliant with the new DWQAR until December 2025 when the last two water supplies (West Eyreton and Ohoka) have UV treatment installed.
- (e) **Circulates** this report to the Community Boards for their information.
- (f) Circulates a copy of this report to Te Ngāi Tūāhuriri Rūnanga, Te Kōhaka o Tūhaitara Trust and Waimakariri Water Zone Committee for their information.

3. BACKGROUND

3.1. 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 old Drinking Water Standards New Zealand (DWSNZ) 2005 (Revised 2018).

- 3.1. An annual review has been undertaken since the 2018-19 compliance year of water quality and compliance results. For the 2023-24 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).
- 3.2. The assessment for the 2023-24 compliance year was completed based on the DWQAR.
- 3.3. The following summarises the status of the 2023-24 compliance year with expected timeframe for when full compliance can be expected for the supplies. Note that even with steps taken to achieve compliance, there is still a risk of technical non-compliance due to data capture issues.

Water	Compliance Ach	Compliance Achieved in 2023-24		Date
Supply	Bacterial	Protozoal	Achieve	Compliance
			Compliance	Expected
Ashley Gorge*	33.3%	0%	Connect to Oxford Rural 2	Currently fully compliant, was connected to Oxford Rural 2 in December 2023
Cust	99.9%	99.9%	Nil.	Currently fully compliant apart from minor technical non- compliances.
Garrymere	100%	100%	Nil.	Currently fully compliant
Kaiapoi	0%	0%	Install UV.	December 2024
Mandeville	99.7%	99.7%	Nil.	Currently fully compliant apart from minor technical non- compliances.
Ohoka	30.1%	0%	Install UV.	December 2025
Oxford Rural 1	16.1%	16.1%	Nil.	UV installed in May 2024 and currently fully compliant apart from minor technical non- compliances.
Oxford Urban & Rural No.2	0%	0%	Nil.	UV installed in September 2024 and currently fully compliant apart from minor technical non- compliances.

Woodend - Pegasus	99.98%	0%	Nil.	UV installed in July 2024 and currently fully compliant apart from minor technical non- compliances.
Rangiora	61.7%	0%	Install UV.	December 2024
Waikuku Beach	99.8%	99.8%	Nil.	Currently fully compliant apart from minor technical non- compliances.
West Evreton	0%	0%	Install UV.	June 2025

*Note that the Ashley Gorge campground supply has been de-registered as a water supply and is now part of the Oxford Rural 2 water supply as of December 2023.

4. ISSUES AND OPTIONS

- 4.1. Table 1 below summarises the compliance status for the 12 water supplies for the period 1 July 2023 30 June 2024, assessed against the DWQAR.
 - Note that the Ashley Gorge was only assessed for 6 months as it was de-registered as a water supply as of December 2023 and is now part of the Oxford Rural 2 water supply. The result is recorded as how many months out of the 6 months the supply was compliant.
 - The Garrymere treatment plant has a monthly compliance monitoring frequency, so the result is recorded as how many months out of 12 months the supply was compliant.
 - Note that the Rangiora, Kaiapoi, Woodend-Pegasus, Waikuku Beach, Oxford Urban/Rural 2, Oxford Rural 1, Cust, Mandeville, Ohoka, West Eyreton/Summerhill/Poyntzs treatment plants have a daily compliance monitoring frequency, so the result is recorded as how many days out of 366 days the supply was compliant.
 - Note that all distribution zones have a monthly compliance monitoring frequency, so the result is recorded as how many months out of 12 months the supply was compliant. The exception being Ashley Gorge, due to it being discontinued as a separate supply from November 2023 and being part of the Oxford Rural 1 supply and therefore only being assessed over 6 months.

Water	Compliance Achieved					
supply	Treatment plant compliance			Distrib	ution zone co	ompliance
	Plant	Bacterial	Protozoal	Zone	Bacterial	Residual
						disinfectant
Ashley	Ashley Gorge	2/6	0/6	Ashley	6/6	6/6
Gorge		2/0	0/0	Gorge		
Cust	Cust	364/366	364/366	Cust	12/12	11/12
Garrymere	Garrymere	12/12	12/12	Garrymere	12/12	11/12

Table 1: Summary of Results for 1 July 2023 - 30 June 2024 Compliance Period

Kaiapoi	Darnley Square	0/366	0/366	Kaiapoi	12/12	11/12
	Peraki Street	0/366	0/366			
Mandeville	Two Chain Road	361/366	361/366	Mandeville	11/12	11/12
Ohoka	Ohoka	110/366	NA	Ohoka	12/12	9/12
Oxford Rural 1	McPhedrons Road	59/366	59/366	Oxford Rural 1	12/12	10/12
Oxford Urban &	Domain Rd	0/366	0/366	Oxford Rural 2	12/12	10/12
Rural 2				Oxford Urban	12/12	6/12
Woodend -	Pegasus	364/366	0/366	Pegasus	12/12	11/12
Pegasus	1 ogudud	00 11000	0,000	Woodend	12/12	11/12
Rangiora	South Belt	211/366	0/366	Rangiora	12/12	6/12
Waikuku	Kings Ave	364/366	364/366	Waikuku	12/12	6/12
Beach	Campground	363/366	363/366	Beach		
West				Poyntzs Rd	12/12	11/12
Fureton	West Eyreton	0/366	0/366	Summerhill	12/12	11/12
		0,000	0,000	West Eyreton	12/12	11/12

- 4.2. As noted in the previous section, the new DWQAR are more challenging to meet than the previous DWSNZ rules for the following reasons:
 - Previously for bacterial compliance, suppliers had to simply demonstrate the water was absent of *E. coli* through sampling. Now it is required that a series of rules are met to verify that there are adequate levels of bacterial treatment provided at all times, which typically requires either UV treatment, or certain chlorine levels to be provided combined with a certain level of contact time with the water. This means for any site that either does not have UV treatment, or where there is insufficient storage to provide the necessary contact time, compliance will not be achieved.
 - For protozoal compliance, previously compliance could be achieved via the 'secure groundwater' criteria, which was used for the majority of the supplies in the district. To meet this criteria, the borehead needed to be certified as secure by a suitably qualified party, and the source water needed to be absent of *E. coli*. In the DWQAR, the secure bore water section has been replaced with 'Class 1 bore water' in order to not require protozoal treatment. This requires that the bore head meet a series of more prescriptive criteria, as well as being absent of not only *E. coli*, but also total coliforms which are detected far more commonly that *E. coli*, making the new criteria far harder to meet. If the Class 1 requirements cannot be met, protozoal treatment must be provided (i.e. by UV treatment).
- 4.3. There are numerous other rules in addition to the ones described above also that are only required to be reported on an annual basis. The above descriptions reflect only the rules that have been reported against for the 2023-24 compliance period. The first annual reporting for the 2023 calendar year was completed in February 2024, however due to teething

issues with the reporting template that is still being worked through with the compliance software provider, it will be the subject of a future report.

- 4.4. The table below summarises the main reasons for the non-compliances for each water supply in the 1 July 2023 30 June 2024 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.
- 4.5. The key improvement actions are:
 - Implement UV treatment at various sites. This is currently underway with UV systems already installed at the Woodend-Pegasus, Oxford Rural 1 and Oxford Urban/Rural 1 supplies. UV treatment is expected to be installed by December for the Rangiora and Kaiapoi supplies. The West Eyreton and Ohoka supplies are expected to have UV treatment installed by June 2025 and December 2025 respectively.
 - For supplies that currently do not have sufficient reservoir storage capacity to meet the chlorine contact time requirement to achieve bacterial compliance, once the UV treatment has been installed the supply will be able to achieve bacterial compliance. This is relevant to the Rangiora, Kaiapoi, West Eyreton and Ohoka water supplies.
 - Improve reliability of the sampling process to ensure that all samples are correctly scheduled, taken and results received back from the laboratory. This is currently being worked on.
 - 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.

Water Supply	Main reasons for non-	Improvements actions required
	compliances	
Ashley Gorge	Plant: Due to instances of elevated turbidity and low pH recorded at the plant, the supply only met bacterial compliance for 2 of the 6 months that it was assessed for.	Ashley Gorge system was connected to Oxford Rural 2 supply in December 2023 therefore no further action required
Cust	Plant: Complied most of the time at the treatment plant using UV treatment for compliance apart from two instances of SCADA failure and inability to recover all data. During these events the UV system was still operating, but compliance data was not being recorded. 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.

	<u>Distribution</u> Fully complied except for a single missing chlorine sample in January 2024, due to a scheduling error.	Staff are looking at making improvements to the sampling process to ensure that all samples are correctly scheduled, taken and results received back from the laboratory.		
Kaiapoi	Plant: Darnley Square and Peraki St treatment plants have insufficiently sized reservoirs so are unable to demonstrate compliance with chlorine contact time requirements. There is also no protozoa barrier at these plants due to their previous designation as secure under the previous DWSNZ.	UV treatment project is underway this financial year at both Darnley and Peraki plants which will enable the supply to achieve both bacterial and protozoal treatment. The UV treatment is expected to be operational by December 2024. Kaiapoi will continue to not achieve both bacterial and protozoal plant compliance until UV treatment has been installed. Staff are looking at making improvements to the sampling process to ensure that all samples are correctly scheduled, taken and results received back from the laboratory.		
	<u>Distribution:</u> Fully complied except for a single missing chlorine sample in January 2024, due to a scheduling error.			
Mandeville	Plant: Missing minutes were recorded at the Two Chain Road treatment plant during 10 January 2024 and 9, 12 and 13 February 2024 due to SCADA failures and inability to recover all data. During these events the UV system was still operating, but compliance data was not being recorded. There was also an issue with UVT monitoring on 12 April 2024. 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.		
	Distribution: Fully complied except for a single missing chlorine sample in January 2024, due to a scheduling error. In addition, there was a missed E.Coli/TC sample due to testing laboratory error in October 2023.	Staff are looking at making improvements to the sampling process to ensure that all samples are correctly scheduled, taken and results received back from the laboratory.		
Ohoka	<u>Plant:</u> There was no continuous turbidity data for the majority of the assessment period, as there was no turbidity meter installed at the treatment plant until March 2024. The storage is not adequately sized	UV treatment project has been planned for the Ohoka plant which will enable the supply to achieve both bacteria and protozoal treatment. The UV treatment is expected to be operational by the end of December 2025.		
	to achieve contact time during peak demands. The Ohoka bore has been designated as Class 1 and does not require a protozoa barrier as long as the Class 1 status is able to be maintained.	Ohoka will continue to not achieve bacterial plant compliance until the UV treatment has been installed.		

Oxford Rural No.1	Distribution: Fully complied except for three missing chlorine samples in October 2023, December 2023 and January 2024. <u>Plant:</u> No onsite reservoir meant the treatment plant was unable to comply with chlorine contact time requirement.	Staff are looking at making improvements to the sampling process to ensure that all samples are correctly scheduled, taken and results received back from the laboratory. UV treatment is now installed at the McPhedrons Road WTP as of May 2024 which will enable the supply to achieve both bacterial and protozoal treatment.		
	UV disinfection was introduced from May 2024 and full compliance for both bacterial and protozoal was met.			
	<u>Distribution:</u> Fully complied apart from three missed chlorine samples in July 2023, January 2024 and March 2024.	Staff are looking at making improvements to the sampling process to ensure that al samples are correctly scheduled, taker and results received back from the laboratory.		
Oxford Urban & Rural No.2	Plant: Until 31 October 2023 the raw water was not treated for chlorine. From 31 October 2023, the treatment plant was used to supply chlorinated water to both Oxford Urban and Oxford Rural No.2 distribution zones. As there was no onsite reservoir, chlorine contact time was not demonstrated and the treatment plant did not comply. There is also no protozoa barrier at this plant due to its previous designation as secure.	UV treatment is now installed at the Domain Road WTP as of September 2024 which will enable the supply to achieve both bacterial and protozoal treatment.		
	Distribution: The Oxford Urban distribution zone was not chlorinated until 31 October 2023, so the distribution zone did not meet the chlorine compliance requirements until then. Two samples were missed in January 2024 and March 2024. The Oxford Rural No.2 distribution zone had samples missed in January 2024 and March 2024.	Staff are looking at making improvement to the sampling process to ensure that a samples are correctly scheduled, take and results received back from the laboratory.		
Woodend - Pegasus	Plant: Missing minutes were recorded during 10 January 2024 due to SCADA failure and inability to recover all data. There was a similar outage on 9 February 2024. There is also no protozoa barrier at these plants due to their previous designation as secure. These are technical issues and does not accurately reflect the safety of the water.	UV treatment is now installed at the Pegasus WTP as of July 2024 which will enable the supply to achieve both bacteria and protozoal treatment		

	<u>Distribution:</u> Fully complied except for a single missing chlorine sample in January 2024, due to a scheduling error.	Staff are looking at making improvements to the sampling process to ensure that all samples are correctly scheduled, taken and results received back from the laboratory. UV treatment project is underway this financial year at South Belt plant which will enable the supply to achieve both bacteria and protozoal treatment. The UV treatment is expected to be operational by December 2024. The supply will continue to not achieve bacteria and protozoal plant compliance until the UV treatment has been installed. Staff are looking at making improvements to the sampling process to ensure that all samples are correctly scheduled, taken and results received back from the laboratory.		
Rangiora	<u>Plant:</u> Chlorine initiated in November 2023. Initial issues with contact time plus data loss incident caused by SCADA failure in February 2024. There is also no protozoa barrier at these plants due to their previous designation as secure.			
	Distribution: The distribution zone was only chlorinated from November 2023 and therefore was not able to achieve distribution zone compliance for the entire compliance year. However since being chlorinated, it has been fully compliant apart from one sample missed in January			
Waikuku Beach	Plant: Both the Kings Avenue and Waikuku Campground water treatment plants had missing minutes recorded during 10 January 2024 due to SCADA failure and inability to recover all data. There was a similar outage on 9 February 2024 which also affected both plants and another on 12 February which only affected the Campground treatment plant.			
	<u>Distribution:</u> The distribution zone was only chlorinated from November 2023 and therefore was not able to achieve distribution zone compliance for the entire compliance year. However since being chlorinated, it has been fully compliant apart from one sample missed in January 2024.	Staff are looking at making improvements to the sampling process to ensure that all samples are correctly scheduled, taken and results received back from the laboratory.		
West Eyreton	Plant: Inadequate chlorine contact time due to size of reservoirs to demonstrate compliance. There is also no protozoa barrier at this plant due to its previous designation as secure.	UV treatment project has been planned for the West Eyreton plant which will enable the supply to achieve both bacteria and protozoal treatment. The UV treatment is expected to be operational by the end of June 2025.		

	West Eyreton will continue to not achieve bacteria and protozoal plant compliance until the UV treatment has been installed.
<u>Distribution:</u> Fully complied except for a single missing chlorine sample in January 2024, due to a scheduling error.	Staff are looking at making improvements to the sampling process to ensure that all samples are correctly scheduled, taken and results received back from the laboratory.

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 DWQAR.

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

5. <u>COMMUNITY VIEWS</u>

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. 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**

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.

5.3. 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.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. **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.

6.2. 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.

7. <u>CONTEXT</u>

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 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.

7.4. Authorising Delegations

No delegation is required to receive this report.



13 September 2024

Waimakariri District Council P O Box 1005 RANGIORA 7440

Attention: Hayley Proffit

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 2023 – 30 June 2024

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 2023 – 30 June 2024. The assessments were undertaken by Matt Molloy, an independent drinking water compliance specialist.

The assessments under the DWQAR followed a similar procedure that was used for the previous drinking water standards, using a methodology and an assessment checklist based on the Drinking Water Assessor process and developed by Matt Molloy Consulting (MMC). The monitoring rules to show treatment plant bacterial and protozoal compliance were reviewed along with the bacterial and residual chlorine compliance in the distribution zone. This covers the previous DWSNZ sections: Bacterial compliance (Section 4) and Protozoal compliance (Section 5).

This would also meet the Department of Internal Affairs/Audit NZ measures of no *E.coli* or protozoa. Only the monitoring rules and those assurance rules required to demonstrate immediate compliance were reviewed, Assurance rules only need to be reported on annually so are currently outside the scope of the assessment. The current audit cycle does not line up with the annual reporting required by Taumata Arowai. The DWQAR does state 'Assurance rules are not used to demonstrate compliance with the Drinking Water Standards but indicate whether supplies undertake activities that contribute to the provision of safe drinking water'. However, it is appropriate to report on these if the supplier has provided the information as they do affect compliance.

In regard to the Water Services (Drinking Water Standards for New Zealand) Regulations 2022, Table 1, the maximum acceptable value (MAV) for *E.coli* and protozoa were not found to be exceeded. Only *E.coli* sampling was performed.

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

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.

Drinking Water Quality Assurance Rules 2022

The outcome for each treatment plant and distribution zone is summarised in the table below. This is for the period 1 July 2023 – 30 June 2024. Bacterial and protozoa compliance at the treatment plant is assessed each day, the distribution zone is assessed each month.

SUMMARY OF COMPLIANCE

<u>1 July 2023 – 30 June 2024</u>

Water supply	Treatment plant compliance		Distribution zone compliance			
	Treatment	Bacterial	Protozoa	Distribution	Bacterial	Residual
	plant			zone		disinfectant
Ashley Gorge	Ashley Gorge	2/6	0/6	Ashley Gorge	6/6	6/6
Cust	Cust	364/366	364/366	Cust	12/12	11/12
Garrymere	Garrymere	12/12	12/12	Garrymere	12/12	11/12
	Darnley	0/302	0/302	Каіароі	12/12	
Каіароі	Square	0,001	0,001			11/12
	Peraki Street	0/353	0/353			
Mandeville	Two Chain Road	361/366	361/366	Mandeville	11/12	11/12
Ohoka	Ohoka	110/366	n/a	Ohoka	12/12	9/12
	McPhedrons	59/334	59/334		-	-
	Road	0/275 (Cl)	(59/59			10/12
Oxford Rural		59/59 (UV)	UV)	Oxford Rural		
No.1	Rockford Road	0/37	0/37	No.1	12/12	
	Deep Bore	0/147	0/147			
Oxford Urban & Rural No.2	Bay Road	0/56	0/56	Oxford Rural	12/12	10/12
	Gammans Creek	0/133	0/133	N0.2		
	Domain Road	0/366	0/366	Oxford Urban	12/12	6/12
						(6/8 once Cl in
						place)
Woodend &	Pegasus	364/366	0/366	Pegasus	12/12	11/12
Pegasus				Woodend	12/12	11/12
Rangiora	South Belt	211/366		Rangiora	12/12	6/12
		(211/229	0/366			(7/8 once Cl in
		once Cl in				place)
		place)				
Waikuku	Kings Avenue	364/366	364/366	Waikuku	12/12	6/12
Beach	Campground	363/366	363/366	Beach		(7/8 once Cl in
		,			10/10	place)
West Eyreton	West Eyreton	0/366	0/366	Poyntzs Road	12/12	11/12
				Summerhill	12/12	11/12
				West Eyreton	12/12	11/12

• Treatment plants using T3 rules have a compliance monitoring period of 1 day and have been assessed over 366 days, so the result is recorded as how many days out of 366 days the supply was compliant (or how many days the plant was running).

- Treatment plants using T2 rules have a compliance monitoring period of one month and have been assessed over 12 months, so the result is recorded as how many months out of 12 months the supply was compliant.
- Distribution zones using D3 and D2 rules have a compliance monitoring period of one month and have been assessed over 12 months, so the result is recorded as how many months out of 12 months the supply was compliant.
- n/a under protozoa means the supply has a sanitary bore head and meets Class 1 requirements, therefore no protozoa treatment is required.
- It is possible that with the submission of an annual report in January 2025 individual compliance or the overall result may change.
- *E.coli* was not detected in any samples taken from the supply treatment plants (Domain Road and South Belt treatment plants from 1 July-16 November 2023 only) and distribution zones during the compliance period.

A brief explanation is provided below and the reasons that each supply has not complied.

Ashley Gorge: Had appropriate levels of chlorine recorded in all manual samples taken at the treatment plant, however instances of elevated turbidity and low pH meant that the supply met bacterial requirements for two/six months. Chlorine levels in the supply reticulation were maintained at a satisfactory concentration. Distribution zone fully complied. This supply was connected to the Oxford Rural No. 2 distribution zone of the Oxford Urban-Rural No. 2 supply in December so has only been assessed out of six months. It has now been deregistered as a drinking water supply.

Cust: Complied at the treatment plant for all days except two (10 January 2024 and 9 February 2024) using UV disinfection. The non-compliances were related to two instances of SCADA failure and inability to recover all data. During these events the UV system was still operating, but compliance data was not being recorded. Distribution zone fully complied except for a single missing chlorine sample in January 2024, due to a scheduling error. These are technical issues and did not present a risk to the safety of the water.

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 assessed.

Darnley Square treatment plant was offline for works on 64 days during the year from 1-17 July 2023 and 2 April to 19 May 2024, and not required to demonstrate compliance during those periods.

Peraki Street treatment plant was offline for works on 13 days during the year from 19-31 July 2023 and not required to demonstrate compliance over the period.

There is no protozoa barrier at these treatment plants due to their previous designation of bore water security under the previous DWSNZ 2005/2018. Chlorine residual and *E.coli* monitoring complied in the zone with the exception of a missed chlorine sample in January 2024. 11/12 months met.

Mandeville: Missing minutes were recorded at the Two Chain Road treatment plant during 10 January 2024 and 9, 12 and 13 February 2024 due to SCADA failures and inability to recover all data. During these events the UV system was still operating, but compliance data was not being recorded. There was also an issue with UVT monitoring on 12 April 2024. Otherwise, UV disinfection and turbidity requirements were met at the plant for 361/366 days. In the distribution zone one chlorine sample was missed in January 2024. 11/12 months met. *E.coli* monitoring frequency and results complied with the exception of a missed sample due to testing laboratory error in October 2023. 11/12 months met.
Ohoka: Chlorine is in place at the treatment plant, however sometimes there is inadequate contact time, but overall chlorine levels were adequate. However, there was no continuous turbidity data for the majority of the assessment period, as there was no turbidity meter installed at the treatment plant until March 2024. Turbidity data was available from 6 March and assessed from 12 March 2024. The supply met all the chlorine requirements from that date. 110/366 days met. The Ohoka bore has been designated as Class 1 therefore not requiring a protozoa barrier. Missing chlorine samples from the zone in October 2023, December 2023 and January 2024 meant only 9/12 months met for residual chlorine. *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 online during the compliance period. There is no protozoa barrier at any of the treatment plants, with the McPhedrons Road and Deep Bore treatment plants due to their previous designation of bore water security under the DWSNZ 2005/2018.

McPhedrons Road treatment plant: Chlorine was in place at the treatment plant, but no onsite reservoir meant the treatment plant was unable to comply with chlorine contact time requirement. The treatment plant was offline due to source re-development works from 19 August to 20 September, so assessment is based on 334 days. UV disinfection was introduced and the treatment plant fully complied from 2 May 2024, 59/59 days. 59/334 days where full compliance was met.

Rockford Road treatment plant: This emergency backup treatment plant was online from 15 August to 21 September 2023 while the McPhedrons Road treatment plant was offline for bore development works. Chlorine was in place at the treatment plant, but due to flood conditions in the Waimakariri River impacting the source water quality during the time the treatment plant was online full compliance was not achieved. The compliance assessment is based on 37 days while the treatment plant was on line. 0/37 days met. A Boil Water Notice was in effect during this period.

Deep Bore treatment plant: This back up treatment plant was online from 1 June-28 September 2023 while the McPhedrons Road treatment plant was offline for bore development works and from 22 December-16 February during the period of higher summer water demand. Chlorine was in place at plant, but no reservoir at the treatment plant meant it was unable to comply with chlorine contact time requirement while online. The assessment is based on 147 days while the treatment plant was online. 0/147 days met.

In the single distribution zone, three chlorine samples were missed in July 2023, January 2024 and March 2024 so overall the number of samples not met for those months. 9/12 months met. *E.coli* monitoring frequency and results complied.

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 is no protozoa barrier at the Domain Road treatment plant due to the previous bore water security designation under the DWSNZ 2005/2018. Until 21 November the Oxford Rural No.2 distribution zone booster pump stations at Bay Road and Gammans Creek functioned as treatment plants to the Oxford Rural No.2 distribution zone.

Domain Road water treatment plant: The Domain Road treatment plant was operating for 366 days. Until 31 October 2023 the raw water was not treated. The raw water was delivered without a residual disinfection barrier to the Oxford Urban distribution zone, and also supplied to the Bay Road and Gammans Creek booster pump stations for chlorination prior to delivery to the Oxford Rural No.2 distribution zone, which is a restricted supply. From 31 October 2023, the treatment plant was used to supply chlorinated water to both Oxford Urban and Oxford Rural No.2

distribution zones. As there was no onsite reservoir, chlorine contact time was not demonstrated and the treatment plant did not comply (0/366 days).

Bay Road treatment plant: From 1 July to 25 August 2023 the drinking water supplied to the Oxford Rural No.2 distribution zone was chlorinated at the Bay Road booster pump station until it was taken offline for reservoir remedial works. As the booster pump station did not have a post chlorine treatment reservoir, it did not meet the chlorine contact time requirement and the site failed to comply for the period when it was online (0/56 days).

Gammans Creek treatment plant: From the 25 August 2023 to 21 November 2023 the Gammans Creek booster pump station was used to supply chlorinated water to the Oxford Rural No.2 distribution zone. From 31 October the water was chlorinated at the Domain Road treatment plant, with ability to supplement chlorination at the Gammans Creek site in the Oxford Rural No.2 zone if required, however this wasn't required and the site reverted to a chlorine monitoring station only from 21 November. As the booster pump station did not have a post chlorine treatment reservoir, it did not meet the chlorine contact time requirement and the site failed to comply for the period when it was online (0/133 days).

The Oxford Urban distribution zone was not chlorinated until 31 October 2023, so the distribution zone did not meet the chlorine compliance requirements until then. Two samples were missed in January 2024 and March 2024, so overall the number of samples was not met for those months. 6/12 months met. The Oxford Rural No.2 distribution zone had samples missed in January 2024 and March 2024 so overall the number of samples were not met for those months. 10/12 months met, 6/8 months met once chlorine in place. All chlorine results from both zones were within limits, its just the missed samples that prevented compliance. *E.coli* monitoring fully complied for both distribution zones.

Woodend & Pegasus: Water for both zones is chlorine treated at the Pegasus treatment plant. Missing minutes were recorded during 10 January 2024 due to SCADA failure and inability to recover all data. There was a similar outage on 9 February 2024. Otherwise, chlorine (C.t, FACe & T_{10}) and turbidity requirements were met. 364/366 days. During the compliance period no protozoa barrier was in place due to the previous designation of bore water security under the DWSNZ 2005/2018. Chlorine residual and *E.coli* monitoring complied in the zone with the exception of a missed FAC sample in January 2024.

Rangiora: Chlorine initiated in November 2023. Issues with C.t and FACe being met early on, plus data loss incident caused by SCADA failure in February 2024. Overall 211/366 days were met. All chlorine parameters met from March 2024, with 211/229 days overall compliance achieved since chlorination commenced 15/11/2023. There was also no protozoa barrier at this plant due to its previous designation as secure under the previous DWSNZ 2005/2018. Following chlorination of the distribution zone from 15/11/2023, the compliance requirements of chlorine sampling 3 x week, maximum interval and days of the week were met. One sample missed in January 2024 so overall the number of samples not met for that month. 6/12 months met, 7/8 months met once chlorine in place. *E.coli* monitoring frequency and results complied.

West Eyreton: Chlorine in place at treatment plant, but inadequate contact time to demonstrate compliance. There is also no protozoa barrier at this plant due to its previous designation of bore water security under the DWSNZ 2005/2018. Overall chlorine levels were adequate leaving the plant, but the contact time cannot be met without a reservoir.

This supply has 3 distribution zones.

West Eyreton: January 2024 a chlorine sample was missed (11/12 months), *E.coli* monitoring and frequency met (12/12).

Poyntz Road: January 2024 a chlorine sample was missed (11/12 months), *E.coli* monitoring and frequency met (12/12).

Summerhill: January 2024 chlorine sample missed (11/12 months), *E.coli* monitoring and frequency met (12/12).

Waikuku Beach: Both the Kings Avenue and Waikuku Campground water treatment plants had missing minutes recorded during 10 January 2024 due to SCADA failure and inability to recover all data. There was a similar outage on 9 February 2024 which also affected both plants and another on 12 February which only affected the Campground treatment plant. Otherwise, UV disinfection and turbidity requirements were met at both plants for bacteria and protozoa. Campground treatment plant 363/366 days met and Kings Avenue treatment plant 364/366 days met. The distribution zone was chlorinated from 8 November 2023, with the requirements for 3 x chlorine samples/week, maximum interval and days of the week met. One sample missed in January 2024 so overall the number of samples not met for that month. 6/12 months met, 7/8 months met once chlorine in place. *E.coli* monitoring and frequency met (12/12 months).

Garrymere: The treatment met the T2 requirements with cartridge filters, UV disinfection and chlorination. Chlorine residual and *E.coli* monitoring complied in the zone with the exception of a missed FAC samples in July 2023, the samples were taken but the results were not able to be recovered from the Infrastructure data database.

Overall, it appears there are significant gaps in compliance for some of the larger water supplies. However, this is generally due to the source waters being previously designated as secure and not requiring treatment. Bacterial compliance also looked low for some supplies, and this was due to a lack of chlorine contact time as opposed to a lack of chlorine itself. WDC are working to install protozoa barriers or prove that one is not required on the relevant supplies. WDC continue to manage risks through the Water Safety Planning process and infrastructure upgrades.

If you have any questions or queries, please contact the undersigned.

Kind regards

Walle

Matt Molloy Drinking Water Compliance Specialist Matt Molloy Consulting Ltd

Copy <u>confirmationssouthern@auditnz.parliament.nz</u>



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).

Taumata Arowai is a Crown entity responsible for the regulation of drinking water in New Zealand, replacing the Ministry of Health and Drinking Water Assessors (DWA). Taumata Arowai took over regulatory responsibilities in November 2021, however they did not undertake a review or assessment of drinking water standards compliance for the 2023/24 compliance period that would meet the requirements of the reporting to meet the Department of Internal Affairs/Audit NZ measures of no *E.coli* or protozoa and the timeframes. Further to that Taumata Arowai require drinking water suppliers to provide regular reports and then report on assurance rules annually, for the calendar year as opposed to the DIA/Audit NZ period of a July-June year.

Matt Molloy Consulting have been asked to provide specialist drinking water expertise to independently review compliance with the DWQAR, which have been operative during the compliance period of 1 July 2023 – 30 June 2024. The assessments under the DWQAR followed a similar procedure that was used for the previous Drinking Water Standards 2005 (revised 2018) (DWSNZ 2005/2018), using a methodology and an assessment checklist based on the DWA process.

The monitoring rules to show treatment plant bacterial and protozoal compliance were reviewed along with the bacterial and residual disinfection compliance in the distribution zone. This covers the previous DWSNZ 2005/2018 sections: Bacterial compliance (Section 4) and Protozoal compliance (Section 5). This would also meet the Department of Internal Affairs/Audit NZ measures of no *E.coli* or protozoa. Only the monitoring rules and those assurance rules required to demonstrate immediate compliance were reviewed. Assurance rules only need to be reported on annually so are currently outside the scope of the assessment. The DWQAR does state 'Assurance rules are not used to demonstrate compliance with the Drinking Water Standards but indicate whether supplies undertake activities that contribute to the provision of safe drinking water'. However, it is appropriate to report on these if the drinking water supplier has provided the information as they do affect compliance.

In regard to the Water Services (Drinking Water Standards for New Zealand) Regulations 2022, Table 1, the maximum acceptable value (MAV) for *E.coli* and protozoa were not found to be exceeded. Only *E.coli* sampling was performed.

Taumata Arowai receive monthly & 3-monthly reports from WDC and these only contain a limited amount of data as required by tables 3-7 in the DWQAR. In some circumstances supplies can comply with the reportable requirements, but overall may not comply with all the parameters. Where information is provided that shows overall non-compliance this has been included in the assessment reports. This provides a more accurate picture of current compliance. There has been no guidance from Taumata Arowai on the relationship between the General Rules and the individual Treatment and Distribution Rules. The General Rules are Assurance Rules and reported on annually, however it is not known as to how failure to meet the Assurance Rules affects the compliance from the Treatment

and Distribution Rules (eg. missing one calibration means rule G.9 or G.12 not met, but does that transfer to the entire supply not being met for that compliance period?). MMC have used professional judgement in reporting against these rules and while it may not meet the intention of Taumata Arowai's rules they have been reported to show that the DIA/Audit NZ measures have been met. There are instances where this assessment may not exactly match what WDC has reported to Taumata Arowai.

The assessment details and process are in the DWQAR 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

Water supply	Treatmen	t plant compli	ance	Distribution zone compliance			
	Treatment	Bacterial	Protozoa	Distribution	Bacterial	Residual	
	plant			zone		disinfectant	
Ashley Gorge	Ashley Gorge	2/6	0/6	Ashley Gorge	6/6	6/6	
Cust	Cust	364/366	364/366	Cust	12/12	11/12	
Garrymere	Garrymere	12/12	12/12	Garrymere	12/12	11/12	
Kaiapoi	Darnley Square	0/302	0/302	Каіароі	12/12	11/12	
	Peraki Street	0/353	0/353				
Mandeville	Two Chain Road	361/366	361/366	Mandeville	11/12	11/12	
Ohoka	Ohoka	110/366	n/a	Ohoka	12/12	9/12	
Oxford Rural	McPhedrons Road	59/334 0/275 (Cl) 59/59 (UV)	59/334 (59/59 UV)	Oxford Rural	12/12	10/42	
No.1	Rockford Road	0/37	0/37	No.1	12/12	10/12	
	Deep Bore	0/147	0/147				
	Bay Road	0/56	0/56	Oxford Rural	12/12	10/12	
Oxford Urban	Gammans Creek	0/133	0/133	NO.2			
& Rural No.2	Domain Road	0/366	0/366	Oxford Urban	12/12	6/12 (6/8 once Cl in place)	
Woodend &	Pegasus	364/366	0/366	Pegasus	12/12	11/12	
Pegasus	8	,	-,	Woodend	12/12	11/12	
Rangiora	South Belt	211/366 (211/229 once Cl in place)	0/366	Rangiora	12/12	6/12 (7/8 once Cl in place)	
Waikuku	Kings Avenue	364/366	364/366	Waikuku	12/12	6/12	
Beach	Campground	363/366	363/366	Beach		(7/8 once Cl in place)	

<u>1 July 2023 – 30 June 2024</u>

West Evreton	West Evreton	0/366		Poyntzs Road	12/12	11/12
West Lyreton	West Lyreton		0/366	Summerhill	12/12	11/12
				West Eyreton	12/12	11/12

- Treatment plants using T3 rules have a compliance monitoring period of 1 day and have been assessed over 366 days, so the result is recorded as how many days out of 366 days the supply was compliant (or how many days the plant was running).
- Treatment plants using T2 rules have a compliance monitoring period of one month and have been assessed over 12 months, so the result is recorded as how many months out of 12 months the supply was compliant.
- Distribution zones using D3 and D2 rules have a compliance monitoring period of one month and have been assessed over 12 months, so the result is recorded as how many months out of 12 months the supply was compliant.
- n/a under protozoa means the supply has a sanitary bore head and meets Class 1 requirements, therefore no protozoa treatment is required.
- It is possible that with the submission of an annual report in January 2025 individual compliance or the overall result may change.
- *E.coli* was not detected in any samples taken from the supply treatment plants (Domain Road and South Belt treatment plants from 1 July-16 November 2023 only) and distribution zones during the compliance period.

A brief explanation is provided below and the reasons that each supply has not complied.

Ashley Gorge: Had appropriate levels of chlorine recorded in all manual samples taken at the treatment plant, however instances of elevated turbidity and low pH meant that the supply met bacterial requirements for two/six months. Chlorine levels in the supply reticulation were maintained at a satisfactory concentration. Distribution zone fully complied. This supply was connected to the Oxford Rural No. 2 distribution zone of the Oxford Urban-Rural No. 2 supply in December so has only been assessed out of six months. It has now been deregistered as a drinking water supply.

Cust: Complied at the treatment plant for all days except two (10 January 2024 and 9 February 2024) using UV disinfection. The non-compliances were related to two instances of SCADA failure and inability to recover all data. During these events the UV system was still operating, but compliance data was not being recorded. Distribution zone fully complied except for a single missing chlorine sample in January 2024, due to a scheduling error. These are technical issues and did not present a risk to the safety of the water.

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 assessed.

Darnley Square treatment plant was offline for works on 64 days during the year from 1-17 July 2023 and 2 April to 19 May 2024, and not required to demonstrate compliance during those periods.

Peraki Street treatment plant was offline for works on 13 days during the year from 19-31 July 2023 and not required to demonstrate compliance over the period.

There is no protozoa barrier at these treatment plants due to their previous designation of bore water security under the previous DWSNZ 2005/2018. Chlorine residual and *E.coli* monitoring complied in the zone with the exception of a missed chlorine sample in January 2024. 11/12 months met.

Mandeville: Missing minutes were recorded at the Two Chain Road treatment plant during 10 January 2024 and 9, 12 and 13 February 2024 due to SCADA failures and inability to recover all data. During these events the UV system was still operating, but compliance data was not being recorded. There was also an issue with UVT monitoring on 12 April 2024. Otherwise, UV disinfection and turbidity requirements were met at the plant for 361/366 days. In the distribution zone one chlorine sample was missed in January 2024. 11/12 months met. *E.coli* monitoring frequency and results complied with the exception of a missed sample due to testing laboratory error in October 2023. 11/12 months met.

Ohoka: Chlorine is in place at the treatment plant, however sometimes there is inadequate contact time, but overall chlorine levels were adequate. However, there was no continuous turbidity data for the majority of the assessment period, as there was no turbidity meter installed at the treatment plant until March 2024. Turbidity data was available from 6 March and assessed from 12 March 2024. The supply met all the chlorine requirements from that date. 110/366 days met. The Ohoka bore has been designated as Class 1 therefore not requiring a protozoa barrier. Missing chlorine samples from the zone in October 2023, December 2023 and January 2024 meant only 9/12 months met for residual chlorine. *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 online during the compliance period. There is no protozoa barrier at any of the treatment plants, with the McPhedrons Road and Deep Bore treatment plants due to their previous designation of bore water security under the DWSNZ 2005/2018.

McPhedrons Road treatment plant: Chlorine was in place at the treatment plant, but no onsite reservoir meant the treatment plant was unable to comply with chlorine contact time requirement. The treatment plant was offline due to source re-development works from 19 August to 20 September, so assessment is based on 334 days. UV disinfection was introduced and the treatment plant fully complied from 2 May 2024, 59/59 days. 59/334 days where full compliance was met.

Rockford Road treatment plant: This emergency backup treatment plant was online from 15 August to 21 September 2023 while the McPhedrons Road treatment plant was offline for bore development works. Chlorine was in place at the treatment plant, but due to flood conditions in the Waimakariri River impacting the source water quality during the time the treatment plant was online, full compliance was not achieved. The compliance assessment is based on 37 days while the treatment plant was on effect during this period.

Deep Bore treatment plant: This back up treatment plant was online from 1 June-28 September 2023 while the McPhedrons Road treatment plant was offline for bore development works and from 22 December-16 February during the period of higher summer water demand. Chlorine was in place at plant, but no reservoir at the treatment plant meant it was unable to comply with chlorine contact time requirement while online. The assessment is based on 147 days while the treatment plant was online. 0/147 days met.

In the single distribution zone, three chlorine samples were missed in July 2023, January 2024 and March 2024 so overall the number of samples not met for those months. 9/12 months met. *E.coli* monitoring frequency and results complied.

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 is no protozoa barrier at the Domain Road treatment plant due to the previous bore water security designation under the DWSNZ 2005/2018. Until 21 November the Oxford Rural No.2 distribution zone

booster pump stations at Bay Road and Gammans Creek functioned as treatment plants to the Oxford Rural No.2 distribution zone.

Domain Road water treatment plant: The Domain Road treatment plant was operating for 366 days. Until 31 October 2023 the raw water was not treated. The raw water was delivered without a residual disinfection barrier to the Oxford Urban distribution zone, and also supplied to the Bay Road and Gammans Creek booster pump stations for chlorination prior to delivery to the Oxford Rural No.2 distribution zone, which is a restricted supply. From 31 October 2023, the treatment plant was used to supply chlorinated water to both Oxford Urban and Oxford Rural No.2 distribution zones. As there was no onsite reservoir, chlorine contact time was not demonstrated and the treatment plant did not comply (0/366 days).

Bay Road treatment plant: From 1 July to 25 August 2023 the drinking water supplied to the Oxford Rural No.2 distribution zone was chlorinated at the Bay Road booster pump station until it was taken offline for reservoir remedial works. As the booster pump station did not have a post chlorine treatment reservoir, it did not meet the chlorine contact time requirement and the site failed to comply for the period when it was online (0/56 days).

Gammans Creek treatment plant: From the 25 August 2023 to 21 November 2023 the Gammans Creek booster pump station was used to supply chlorinated water to the Oxford Rural No.2 distribution zone. From 31 October the water was chlorinated at the Domain Road treatment plant, with ability to supplement chlorination at the Gammans Creek site in the Oxford Rural No.2 zone if required, however this wasn't required and the site reverted to a chlorine monitoring station only from 21 November. As the booster pump station did not have a post chlorine treatment reservoir, it did not meet the chlorine contact time requirement and the site failed to comply for the period when it was online (0/133 days).

The Oxford Urban distribution zone was not chlorinated until 31 October 2023, so the distribution zone did not meet the chlorine compliance requirements until then. Two samples were missed in January 2024 and March 2024, so overall the number of samples was not met for those months. 6/12 months met. The Oxford Rural No.2 distribution zone had samples missed in January 2024 and March 2024 so overall the number of samples were not met for those months. 10/12 months met, 6/8 months met once chlorine in place. All chlorine results from both zones were within limits, its just the missed samples that prevented compliance. *E.coli* monitoring fully complied for both distribution zones.

Woodend & Pegasus: Water for both zones is chlorine treated at the Pegasus treatment plant. Missing minutes were recorded during 10 January 2024 due to SCADA failure and inability to recover all data. There was a similar outage on 9 February 2024. Otherwise, chlorine (C.t, FACe & T_{10}) and turbidity requirements were met. 364/366 days. During the compliance period no protozoa barrier was in place due to the previous designation of bore water security under the DWSNZ 2005/2018. Chlorine residual and *E.coli* monitoring complied in the zone with the exception of a missed FAC sample in January 2024.

Rangiora: Chlorine initiated in November 2023. Issues with C.t and FACe being met early on, plus data loss incident caused by SCADA failure in February 2024. Overall 211/366 days were met. All chlorine parameters met from March 2024, with 211/229 days overall compliance achieved since chlorination commenced 15/11/2023. There was also no protozoa barrier at this plant due to its previous designation as secure under the previous DWSNZ 2005/2018. Following chlorination of the distribution zone from 15/11/2023, the compliance requirements of chlorine sampling 3 x week, maximum interval and days of the week were met. One sample missed in January 2024 so overall the

number of samples not met for that month. 6/12 months met, 7/8 months met once chlorine in place. *E.coli* monitoring frequency and results complied.

West Eyreton: Chlorine in place at treatment plant, but inadequate contact time to demonstrate compliance. There is also no protozoa barrier at this plant due to its previous designation of bore water security under the DWSNZ 2005/2018. Overall chlorine levels were adequate leaving the plant, but the contact time cannot be met without a reservoir.

This supply has 3 distribution zones.

West Eyreton: January 2024 a chlorine sample was missed (11/12 months), *E.coli* monitoring and frequency met (12/12).

Poyntz Road: January 2024 a chlorine sample was missed (11/12 months), *E.coli* monitoring and frequency met (12/12).

Summerhill: January 2024 chlorine sample missed (11/12 months), *E.coli* monitoring and frequency met (12/12).

Waikuku Beach: Both the Kings Avenue and Waikuku Campground water treatment plants had missing minutes recorded during 10 January 2024 due to SCADA failure and inability to recover all data. There was a similar outage on 9 February 2024 which also affected both plants and another on 12 February which only affected the Campground treatment plant. Otherwise, UV disinfection and turbidity requirements were met at both plants for bacteria and protozoa. Campground treatment plant 363/366 days met and Kings Avenue treatment plant 364/366 days met. The distribution zone was chlorinated from 8 November 2023, with the requirements for 3 x chlorine samples/week, maximum interval and days of the week met. One sample missed in January 2024 so overall the number of samples not met for that month. 6/12 months met, 7/8 months met once chlorine in place. *E.coli* monitoring and frequency met (12/12 months).

Garrymere: The treatment met the T2 requirements with cartridge filters, UV disinfection and chlorination. Chlorine residual and *E.coli* monitoring complied in the zone with the exception of a missed FAC samples in July 2023, the samples were taken but the results were not able to be recovered from the Infrastructure data database.

DWQAR Compliance Recording Sheet

Date	July/August 2024						
Person	Matt Molloy -Drinking Water Compliance Specialist. Matt Mollov Consulting						
completing							
assessment &	Matt Mollov has 30 years public health experience firstly with the Nelson						
evnerience	Mai	Warlborough District Health Poard and as a public health consultant over the					
cxperience	lact	decade Mattha	s snacialisad in drinki	a public ricultil c na water complic	ance and consulted	d	
	dira	athy to many Distr	ist Hoalth Boards in I	Now Zoaland as i	nice unu consullet Drinking Water	u	
	Acc	city to muny Distr	horition accisting with	h compliance and	l diso to the World	d	
	ASSE	lth Organization	nonlies assisting with	n compliance and	i uiso lo lite vvoito ialist Matthas	ג	
	пеи	in Organisation (та пуутене spec	iulist. Wutt hus		
	wor		water Assessor jor o	iver 15 years in n	iost puris of the		
	cou	ntry, until DVVAS V	vere alsbanaea unae.	r the water Servi	ces Act 2021 In		
	Nov	ember 2021. Mat	t now provides indep	endent 3 rd party	audits of drinking	1	
	wat	er compliance.					
Council audited,	List	the Council being	assessed. Waimakar	riri District Counc	il		
drinking water							
supply name and	The	following supplie	s have been assessed	d for compliance	against the		
details.	арр	ropriate requirem	ents of the DWQAR.	The type of trea	tment and the		
	spe	cific treatment co	mpliance rule are sta	ted in the table.			
		Water supply	Treatme	ent plant complian	ce		
			Treatment plant	Bacterial	Protozoa		
		Ashley Gorge	Ashley Gorge	Chlorine T2	none		
		Cust	Cust	UV T3	UV T3		
		Garrymere	Garrymere	Cartridge filter	Cartridge		
				& UV, chlorine	filter & UV,		
				T2	chlorine T2		
		Каіароі	Darnley Square	Chlorine T3	none		
			Peraki Street	Chlorine T3	none		
		Mandeville	Two Chain Road	UV T3	UV T3		
		Ohoka	Ohoka	Chlorine T3	Class 1		
			McPhedrons Road	Chlorine T3	UV from May		
		Oxford Rural			2024		
		No.1	Rockford Road	Chlorine T3	none		
			Deep Bore	Chlorine T3	none		
				Chlorine T3			
		Oxford Urban &	Domain Road	from Nov 2023	none		
		Rural No.2		for Oxford			
				Urban			
		Woodend & Pegasus	Pegasus	Chlorine T3	none		
		Rangiora	South Belt	Chlorine T3	none		
				from Nov-23	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		
	Ashley Gorge	Ashley Gorge	D2	D2		
	Cust	Cust	D2	D2		
	Garrymere	Garrymere	D2	D2		
	Каіароі	Каіароі	D3	D3		
	Mandeville	Mandeville	D3	D3		
	Ohoka	Ohoka	D2	D2		
	Oxford Rural No.1	Oxford Rural No.1	D3	D3		
	Oxford Urban &	Oxford Rural No.2	D3	D3		
	Rural No.2	Oxford Urban	D3	D3		
	Woodend &	Woodend	D3	D3		
	Pegasus	Pegasus	D3	D3		
	Rangiora	Rangiora	D3	D3		
	Waikuku Beach	Waikuku Beach	D3	D3		
	West Evreton	Poyntzs Road	D3	D3		
		Summerhill	D3	D3		
		West Eyreton	D3	D3		
List	each piece of info WDC spreadsheet same spreadshee WDC spreadsheet	ormation that was t on DWQAR com t with data from . t on DWQAR shov	s reviewed fo pliance all su Jan-Jun-24. ving individu	or each supply. Ipplies summary 20 Ial month complian		

GENERAL COMPLIANCE

Compliance assessment period	1 July 2023 – 30 June 2024.
What is risk category of supply audited eg high risk? – identifies priority for verification of data.	Insert any details about known risks to the water supplies.
	All of the active WDC water sources are groundwater and not considered to be high risk. Most of the sources were previously classified as secure groundwater under the DWSNZ 2005/18. These have defaulted to Class 2 source waters which require 3-log protozoa removal. There are inactive sources kept as emergency backups only that are shallow groundwater or surface water sources. These would be subject to individual assessment prior to use. The supplies that were not secure have minimum of UV disinfection (or chlorine).
Method of data provision from water supplier to assessor Electronic/paper/in person during visit – detail dates and reason for visit	 Insert information on provision of data. Waimakariri District Council provided: Infrastructure Data (ID) database for treatment plant and distribution zone summary verification. Council provided access to database. Copies of requested Hill Laboratories water sample analysis reports. Various Excel spreadsheets containing monitoring summaries and reasoning for any non-compliances. Site visit on 29-30 July 2024 to further verify data and clarify findings.
What data is audited over compliance assessment period? – Overview of: • What selection of data was	Insert information on data audited.<i>The treatment plant and distribution zone compliance</i>
 chosen and why? What parameters are audited What timeframes will be audited Which areas of compliance were chosen for audit and why? Which supplies were chosen to select data from? 	 was demonstrated in Infrastructure Data. Summaries of each day(monthly) for all supplies were reviewed. WDC spreadsheet on DWQAR compliance all supplies summary 2023. The same spreadsheet with data from January to June 2024. Ohoka turbidity data April to June 2024. Hills Laboratory reports for Total coliform and E.coli sampling undertaken on 31/1/24, 1/2/24, 5/2/24, 6/2/24, 8/2/24, 9/2/24 and 13/2/24.
	Focus for audit was on supplies or parts of supplies that WDC were claiming compliance for.

Compliance assessment based	Insert information on compliance assessment.
on:	• Compliance summaries in ID for bacterial compliance and a
a. Whole compliance data set.	selection of laboratory reports.
b. Audit of selection of data	• Compliance summaries in ID for residual chlorine and a
records	selection of actual data from the field entries.
Note: this may be determined by what criteria they are trying	• Compliance summaries in ID for protozoa compliance and nartial data sets
to comply with (e.g. secure	Concelling on and data workfield analta in 1.4. 2024
	Compliance and data verified onsite in July 2024.
groundwater and crypto	
monitoring requires whole	NOTE: the formulas in ID (FACE, C.t and T_{10}) were not
compliance data set)	specifically reviewed. These are developed from the inputs
	provided by the treatment plant SCADA data and could not be
	seen by the limited ID access MMC had. The formulas used in ID
	are created and used nationally so review was considered
	outside the scope of this assessment.

Consider the following general rules. These are General Assurance rules and only require reporting on (and therefore assessing) annually. However given that they are important for compliance demonstration, it is appropriate to ensure that the 7 rules listed below are checked and commented upon. The systems used by the water supply are appropriate across all water supplies for that Council.

General Rule	WDC progress/comment
G6. Sample labelling	Sample bottles reported to have unique identifier.
G7. Sample delivery time	Where possible samples are delivered on the day they are taken, and always within 24 hours.
G8. IANZ Laboratory	Hill Laboratories in Christchurch.
G9. Calibration of hand held equipment	The Water Operator Team Leader confirmed the Hach handheld units are maintained as per Hach instructions. Information on each calibration and standardisation is also in the ID database in the forms section. ID has automatic bring ups to remind operators when calibrations and standardisations are due.
G12. Calibration of continuous monitors	Calibrations and verifications of continuous monitoring equipment. The calibration of continuous monitoring equipment is in Infrastructure Data and the water headworks water quality data spreadsheet. ID has automatic bring ups to remind operators when calibrations and verifications are due.
G13. Separation of data	Work is underway to improve this, it is expected that ID will pick up and identify any missing minutes or data interruptions.
G14. Data interruptions	Work is underway to improve this, it is expected that ID will pick up and identify any missing minutes or data interruptions.

TREATMENT PLANT

Bacterial Compliance

Record compliance criterion used	Insert details of each	treatment plant ar	nd the specific
and compliance periods for these	compliance criteria th	nat is being used.	·
criterion		-	
(e.g. T1, T2, T3 and the relevant			
treatment specific rule)	Supply (plant)	Treatment	Treatment rule
	Ashley Gorge	Chlorine	Т2
(NOTE: only T3.2 -C.t needs to be	Cust	Chlorine, UV	T3 (UV rules)
reported to Taumata Arowai for T3	Garrymere	Cartridge filter &	T2
supplies using chlorine)		UV, chlorine	
	Kaiapoi - Darnley	Chlorine	T3 (chlorine)
(NOTE: only T3.17 -UV dose needs to	Square		
be reported to Taumata Arowai for	Kaiapoi - Peraki	Chlorine	T3 (chlorine)
T3 supplies using UV)	Street		
	Mandeville	UV, chlorine	T3 (UV rules)
	Ohoka	Chlorine	T3 (chlorine)
	Oxford Rural No.1 -	Chlorine, UV from	T3 (chlorine)
	McPhedrons Road	April 2024	
	Oxford Rural No.1 -	Chlorine	13 (chlorine)
	Rockford Road Deep		
	Ovford Urban &	Chlorine from 31	T3 (chlorine)
	Rural No. 2 -	October 2023	rs (chonne)
	Domain Road only		
	Oxford Urban &	Chlorine from 31	T3 (chlorine)
	Rural No. 2 – Bay	October 2023	, ,
	Road		
	Oxford Urban &	Chlorine from 31	T3 (chlorine)
	Rural No. 2 –	October 2023	
	Gammans Creek		
	Woodend & Pegasus	Chlorine	T3 (chlorine)
	- Pegasus		
	Woodend & Pegasus	Chlorine at	T3 (chlorine)
	- woodend	Pegasus plant	T2 (ablasias)
	Rangiora	November 2022	13 (chiorine)
	Waikuku Reach -	LIV chlorine from	T3 (LIV rules)
	Kings Ave	November 2023	is (ovides)
	Waikuku Beach	UV chlorine from	T3 (UV rules)
	Campground	November 2023	
	West Eyreton	Chlorine	T3 (chlorine)
			· · · · ·
			·
	Insert relevant inform	nation as to how ea	ach supply is
	meeting bacterial cor	npliance against th	e measures on the
	left hand side of the t	able.	

T3 chlo	prine	Supply (plant)	Treatment Compliance
T3.2 T3.3	Treated water must achieve a chlorine C.t value of at least 15 min.mg/L for at least 95 % of each day Treated water must have a	Kaiapoi - Darnley Square	Insufficiently sized reservoir at plant means unable to demonstrate compliance with chlorine contact time requirement. 0/302 days . DWQAR state that compliance does not need to be met when the plant is not in
	FACE of no less than 0.2	Kajanoj - Peraki	operation.
T3.4 T3.5	T ₁₀ contact time of at least 5 minutes must be demonstrated Turbidity of water leaving	Street	unable to demonstrate compliance with chlorine contact time requirement. 0/353 days . DWQAR state that compliance does not need to be met when the plant is not in
	the treatment plant must be less than 1.0 NTU for at least 95% of each day	Ohoka	operation. Chlorine in place at plant, sometimes inadequate contact time, but overall
T3.6	Turbidity must not exceed 2.0 NTU for the duration of any consecutive 15-minute period		chlorine levels were adequate. However there was no continuous turbidity data for the majority of the assessment period. A turbidimeter was installed 6 March and fully operational from 12 March, data was available and assessed from that date. The supply met all the chlorine requirements from that date. 110/366 days met .
		Oxford Rural No.1 - McPhedrons Road	Chlorine in place at plant, but no reservoir at plant means unable to comply with chlorine contact time requirement. Plant off from 19/8-20/9 so assessment is based on 334 days. UV introduced and fully complied from 2/5/24, 59/59 days. 59/334 days met overall .
		Oxford Rural No.1 -Rockford Road	Chlorine was in place at the treatment plant, but due to flood conditions in the Waimakariri River impacting the source water quality during the time the treatment plant was online full compliance was not achieved. Plant on from 15/8-21/9. Assessment is based on 37 days. 0/37 days met.
		Oxford Rural No.1 -Deep Bore	Chlorine was in place at plant, but no reservoir at the treatment plant meant it was unable to comply with chlorine contact time requirement while online. Plant on from Jul-Sept and Dec-Feb. Assessment is based on 147 days. 0/147days met.
		Oxford Urban & Rural No.2 - Rural No.2 (Domain Road)	The Bay Road booster pump station in the Oxford Rural No.2 distribution zone functioned as treatment plant for 56 days, with the water to the distribution zone chlorinated there (0/56 days). Gammans Creek booster pump station in the Oxford Rural No.2 distribution zone functioned as a treatment plant for 133 days with no chlorine contact time (0/133 days).

			Domain Rd was operating for 366 days, was
			chlorinated from 31 October, however
			without contact time did not meet all the
			requirements (0/366 days).
		Woodend &	Missina minutes recorded durina 10 Jan-24
		Pegasus	due to supply wide SCADA failure and
			inability to recover all data. There was a
			similar outage on 9 Feb-24. Otherwise.
			chlorine (C.t. FACe & T_{10}) and turbidity
			requirements were met. 364/366 days .
		Rangiora	Chlorine initiated in Nov-23 Issues with C t
		nungioru	and FACe being met early on plus data loss
			incident in Feb-24. The siting of the treated
			water turbidimeter has also raised issues
			with the $DW \cap AR$ stating it must be after the
			elansed contact time. The current siting of
			the turbidimeter makes no material
			difference to the turbidity results and it is
			reasonable for WDC to claim compliance
			WDC will be using UV for compliance when
			the Panajora plant is commissioned
			Overall 211/266 days met 211/220 days
			over ull 211/300 duys mel, 211/229 duys
			from March 2024
		Most Eventer	Chloring in place at plant, but in adapted
		west Eyreton	Chiorine in place at plant, but indaequate
			contact time. Overall chiorine levels were
		- Cust, Mandevill	le and Waikuku Beach are using T3-UV for
		- Cust, Mandevili bacterial complic	le and Waikuku Beach are using T3-UV for
UV		- Cust, Mandevili bacterial complic Supply (plant)	adequate but not the C.t. 0/366 days . le and Waikuku Beach are using T3-UV for ance Treatment Compliance
UV T3.15	All water passing through	- <i>Cust, Mandevili</i> bacterial complie Supply (plant) Cust	adequate but not the C.t. 0/366 days . le and Waikuku Beach are using T3-UV for ance Treatment Compliance Missing minutes recorded during 10 Jan-24
UV T3.15	All water passing through the treatment plant must	- Cust, Mandevili bacterial complic Supply (plant) Cust	adequate but not the C.t. U/366 days . le and Waikuku Beach are using T3-UV for ance Treatment Compliance Missing minutes recorded during 10 Jan-24 due to supply wide SCADA failure and
UV T3.15	All water passing through the treatment plant must pass through the UV	- Cust, Mandevili bacterial complic Supply (plant) Cust	adequate but not the C.t. 0/366 days . le and Waikuku Beach are using T3-UV for ance Treatment Compliance Missing minutes recorded during 10 Jan-24 due to supply wide SCADA failure and inability to recover all data. There was a
UV T3.15	All water passing through the treatment plant must pass through the UV reactor(s) and be within the	- Cust, Mandevill bacterial complic Supply (plant) Cust	adequate but not the C.t. U/366 days . le and Waikuku Beach are using T3-UV for ance Treatment Compliance Missing minutes recorded during 10 Jan-24 due to supply wide SCADA failure and inability to recover all data. There was a similar outage on 9 Feb-24. Otherwise, UV
UV T3.15	All water passing through the treatment plant must pass through the UV reactor(s) and be within the reactor's certified flow	- Cust, Mandevili bacterial complic Supply (plant) Cust	I adequate but not the C.t. U/366 days . We and Waikuku Beach are using T3-UV for ance Treatment Compliance Missing minutes recorded during 10 Jan-24 due to supply wide SCADA failure and inability to recover all data. There was a similar outage on 9 Feb-24. Otherwise, UV and turbidity requirements were met.
UV T3.15	All water passing through the treatment plant must pass through the UV reactor(s) and be within the reactor's certified flow range.	- Cust, Mandevili bacterial complic Supply (plant) Cust	adequate but not the C.t. U/366 days .le and Waikuku Beach are using T3-UV for cance Treatment Compliance Missing minutes recorded during 10 Jan-24 due to supply wide SCADA failure and inability to recover all data. There was a similar outage on 9 Feb-24. Otherwise, UV and turbidity requirements were met. 364/366 days.
UV T3.15 T3.16	All water passing through the treatment plant must pass through the UV reactor(s) and be within the reactor's certified flow range. A reduction equivalent dose	- Cust, Mandevili bacterial complie Supply (plant) Cust	adequate but not the C.t. U/366 days . le and Waikuku Beach are using T3-UV for ance Treatment Compliance Missing minutes recorded during 10 Jan-24 due to supply wide SCADA failure and inability to recover all data. There was a similar outage on 9 Feb-24. Otherwise, UV and turbidity requirements were met. 364/366 days.
UV T3.15 T3.16	All water passing through the treatment plant must pass through the UV reactor(s) and be within the reactor's certified flow range. A reduction equivalent dose (RED) of not less than 40	- Cust, Mandevill bacterial complia Supply (plant) Cust Mandeville	Adequate but not the C.t. U/366 days . le and Waikuku Beach are using T3-UV for ance Treatment Compliance Missing minutes recorded during 10 Jan-24 due to supply wide SCADA failure and inability to recover all data. There was a similar outage on 9 Feb-24. Otherwise, UV and turbidity requirements were met. 364/366 days. Missing minutes recorded during 10 Jan-24
UV T3.15 T3.16	All water passing through the treatment plant must pass through the UV reactor(s) and be within the reactor's certified flow range. A reduction equivalent dose (RED) of not less than 40 mJ/cm ² (or equivalent) must	- <i>Cust, Mandevill</i> bacterial complie Supply (plant) Cust Mandeville	daequate but not the C.t. U/366 days .le and Waikuku Beach are using T3-UV for cance Treatment Compliance Missing minutes recorded during 10 Jan-24 due to supply wide SCADA failure and inability to recover all data. There was a similar outage on 9 Feb-24. Otherwise, UV and turbidity requirements were met. 364/366 days .Missing minutes recorded during 10 Jan-24 due to supply wide SCADA failure and
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UV T3.15 T3.16 T3.17 T3.18	All water passing through the treatment plant must pass through the UV reactor(s) and be within the reactor's certified flow range. A reduction equivalent dose (RED) of not less than 40 mJ/cm ² (or equivalent) must be achieved for not less than 95 % of each day. The RED UV dose must be not less than 40 mJ/cm ² for any consecutive 15-minute period. Turbidity must not exceed	- <i>Cust, Mandevill</i> bacterial complie Supply (plant) Cust Mandeville Waikuku Beach	daequate but not the C.t. U/366 days .le and Waikuku Beach are using T3-UV for cance Treatment Compliance Missing minutes recorded during 10 Jan-24 due to supply wide SCADA failure and inability to recover all data. There was a similar outage on 9 Feb-24. Otherwise, UV and turbidity requirements were met. 364/366 days .Missing minutes recorded during 10 Jan-24 due to supply wide SCADA failure and inability to recover all data. There was an issue with missing minutes for 3 days in Feb-24. There was also an issue with UVT in April-24 Otherwise, UV and turbidity requirements were met. 361/366 days .Missing minutes recorded during 10 Jan-24
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Duty UVI sensors must be checked at least monthly against the reference sensor. The reference UVI sensor must be standardised at least annually or replaced. The equipment must be certified and operated to meet the RED dose of 40 mJ/cm ² (or equivalent)	- Campgroui	ach Mis: nd due inat simi UV d 363 ,	sing minutes to supply wi pility to recov lar outage o and turbidity /366 days.	: recorded ide SCADA ver all data n 9 & 12 F v requirem	during 10 Ja failure and a. There was eb-24. Othe ents were m	in-24 rwise, net.
T2 bacterial/chlorine To meet the equivalent of bacterial treatment in the DWSNZ and T3 it is considered appropriate for the supply to	Ashley Gor <u>c</u> Information	ge and (from ID is E.coli	Garrymere s summaris	are und ed in the pH	er the T2 table belov	v.
meet E.coli and chlorine monitoring		<time in<="" td=""><td>20.511g/L</td><td>and <8</td><td></td><td></td></time>	20.511g/L	and <8		
(FAC, pH & turbidity) or E.coli and UV (turbidity & UV dose).	Ashley Gorge	Х	٧	X	х	X
T2.2 E.coli <1MPN	Garrymere	V	V	٧	V	V
T2.9 Turbidity, <5NTU T2.12 UV dose >40mJ/cm² T2.19 FAC >0.5mg/L T2.21 pH >6.5 and <8	Asriey Gorga occasions. To only 2/6 mon post wind ev for 5/6 mon distribution 2 not advised protozoa con to be deeme months met <u>Garrymere:</u> measured at were also wi sample in Ju this was a m and evidence monitored a Overall all m	e: FAC wa urbidity w nths. A m vent site a ths. This s zone in Da what nee mpliance, d complia the equiv had levels the equiv had levels thin limit ly-23, how islabelled e was acc s allowed ponitoring	is above 0.3 vas met for issed E.coli iccess issue upply conn ecember 20 ds to be me so it is rea so it is rea ant using ch valent of ba s of chlorine , along with s. There ap wever on in l zone wate epted. The by DWQAI requireme	A/6 mont sample in s meant t ected to (23. Taum et for back sonable for horine. O facterial co e above th h pH and peared to vestigatio er sample. UV is con R table 14 nts met for	an measur ths and pH ths and pH that this wo Dxford Run tata Arowa terial and or Ashley G verall 2/6 turbidity w be a misse on it showe The explan tinuously footnote or 12/12 m	ea for ie to is met al #2 ii have ii have forge forge forge d that nation 25. conths .
What parameters and timeframe were audited and from which supplies?	Insert comm For UV disinj transmittand compliance. Exceptions w data verified Ohoka turbid	fected sup fected sup ce and tur Monthly vere follor I. Supplen dity minus	parameters oplies the fl rbidity are r summaries wed up ons nentary info te data fror	and time low, UV d monitored are show ite and ap ormation m Apr to J	frames aud ose, UV d and used in in ID. opropriate provided o lun-24.	lited. for raw n

	Checked monthly summaries in ID and then the forms section to review the actual monitoring information as it is entered by the samplers. Compared E.coli results to laboratory reports.
Comments on whether compliance	Insert comments on compliance demonstration.
criterion met / not met and reasons	
	The actual results of compliance (either the number of days
	or months compliant) are listed in the previous section of
	this report.
Method of determining compliance	Insert comments on compliance demonstration.
eg checked all raw data, used excel	
to graph data, other method –	Infrastructure Data (ID) is used for compliance
where is this data recorded?	demonstration. Reports are generated and sent directly
	from the database. It is extremely difficult to manipulate
	the raw data in ID so when a non-compliance is stated by
	the database an exception comment must be added if the
	supplier has other data or information available.
	Unfortunately whenever Lutra update the ID database all
	the previous comments disappear. When it was unclear in
	ID then further information was requested to confirm
	compliance.

Protozoa Compliance

Descrid Log Credit required Log	Incort log romoval roa	wired for each tr	astraant plant and	
Record Log Credit required – Log				
removal requirement as	how determined.			
determined by DWQAR or SWRMP.				
	Cust. 3-log DWQAR			
	Garrymere. 4-log DW	QAR		
	Mandeville. 3-log DW	QAR		
	Waikuku Beach – Kinas Ave. 3-loa DWOAR			
	Walkuku Beach – Camparound 3-log DWOAR			
	Oxford Rural No. 1 -M	IcPhedrons Rd 3-	log DWOAR (from 16	
	$\Delta nril 2024$	er neurons nu. s		
	April 2024)			
	Other MDC supplies d	a not have any n	ratazaa traatmant	
	bewever the word of	Unot nuve uny pi	olozou lieulment,	
	nowever they would all be deemed 3-log by default.			
List treatment processes in place	Insert treatment in place for each treatment plant, and			
that meet DWQAR criteria –	compliance monitorin	ig period. Summa	rise compliance	
including compliance monitoring	details for each plant.			
periods for those treatment				
processes.	Supply (plant)	Protozoa	Applicable	
		Treatment	Treatment rule	
	Ashley Gorge	None	N/A -connected	
			to Oxford Rural	
			#2 in Dec-23.	
	Cust	UV	T3 (UV rules)	
	Garrymere	Cartridge filter	T2 (filter & UV)	
		& UV		
	Kaiapoi -Darnley	None	N/A	
	Square	1		

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		Kaiapoi -Peraki S	treet	None	N/A
		Mandeville		UV	T3 (UV rules)
		Ohoka		None	Class 1 supply no
					protozoa
					treatment
					required.
		Oxford Rural No	.1-	UV	T3 (UV rules)
		McPhedrons Rd	_		from Apr-24
		Oxford Rural No	1-	None	N/A
		Bockford Rd Dee	n l	None	
		Well	۰P		
		Oxford Urban &	Rural	Nono	NI/A
		2 – Domain Road		None	
			л —	Nono	NI / A
		Pegasus		None	N/A
		vvoodend		None	N/A
		Rangiora		None	N/A
		Waikuku Beach - Kings Ave	-	UV only	T3 (UV rules)
		Waikuku Beach		UV and	T3 (UV rules)
		Campground		cartridge	
				filtration	
		West Evreton		None	N/A
	achieve the claimed log credit	McPhedrons Rd.			
70 07	exceed that required to achieve the claimed log credit for at least 95% of each day.	McPhedrons Rd.	Treatm	ent Complian	ce
T3.87	exceed that required to achieve the claimed log credit for at least 95% of each day. The UV dose must not be less than that required to achieve	McPhedrons Rd. Supply (plant) Cust	Treatm Missing	ent Complian minutes reco	ce rded during 10 Jan-24
T3.87	exceed that required to achieve the claimed log credit for at least 95% of each day. The UV dose must not be less than that required to achieve the claimed log credit for the	McPhedrons Rd. Supply (plant) Cust	Treatm Missing due to s	ent Complian minutes reco	ce rded during 10 Jan-24 CADA failure and inability
T3.87	exceed that required to achieve the claimed log credit for at least 95% of each day. The UV dose must not be less than that required to achieve the claimed log credit for the duration of any consecutive	McPhedrons Rd. Supply (plant) Cust	Treatm Missing due to s to reco	<mark>ent Complian</mark> minutes reco supply wide SC ver all data. Th	ce rded during 10 Jan-24 CADA failure and inability here was a similar outage
T3.87	exceed that required to achieve the claimed log credit for at least 95% of each day. The UV dose must not be less than that required to achieve the claimed log credit for the duration of any consecutive 15-minute period.	McPhedrons Rd. Supply (plant) Cust	Treatm Missing due to s to recov on 9 Fe	ent Complian minutes reco supply wide SC ver all data. Tl b-24. Otherwi	ce rded during 10 Jan-24 CADA failure and inability here was a similar outage se, UV and turbidity
T3.87 T3.88	 exceed that required to achieve the claimed log credit for at least 95% of each day. The UV dose must not be less than that required to achieve the claimed log credit for the duration of any consecutive 15-minute period. Turbidity must not exceed 5.0 	McPhedrons Rd. Supply (plant) Cust	Treatm <i>Missing</i> <i>due to s</i> <i>to recov</i> <i>on 9 Fe</i> <i>require</i>	ent Complian minutes reco supply wide SC ver all data. Th b-24. Otherwis ments were m	ce rded during 10 Jan-24 CADA failure and inability here was a similar outage se, UV and turbidity het. 364/366 days.
T3.87 T3.88	 exceed that required to achieve the claimed log credit for at least 95% of each day. The UV dose must not be less than that required to achieve the claimed log credit for the duration of any consecutive 15-minute period. Turbidity must not exceed 5.0 NTU for the duration of any 	McPhedrons Rd. Supply (plant) Cust Mandeville	Treatm <i>Missing</i> <i>due to s</i> to reco on 9 Fe require <i>Missing</i>	ent Complian minutes reco supply wide SC ver all data. Tl b-24. Otherwi ments were m minutes reco	ce rded during 10 Jan-24 CADA failure and inability here was a similar outage se, UV and turbidity et. 364/366 days. rded during 10 Jan-24
T3.87 T3.88	 exceed that required to achieve the claimed log credit for at least 95% of each day. The UV dose must not be less than that required to achieve the claimed log credit for the duration of any consecutive 15-minute period. Turbidity must not exceed 5.0 NTU for the duration of any consecutive 15-minute period. 	McPhedrons Rd. Supply (plant) Cust Mandeville	Treatm <i>Missing</i> <i>due to s</i> to recou on 9 Fe require <i>Missing</i> <i>due to s</i>	ent Complian minutes reco supply wide SC ver all data. Th b-24. Otherwi ments were m minutes reco supply wide SC	ce rded during 10 Jan-24 CADA failure and inability here was a similar outage se, UV and turbidity ret. 364/366 days. rded during 10 Jan-24 CADA failure and inability
T3.87 T3.88 T3.89	 exceed that required to achieve the claimed log credit for at least 95% of each day. The UV dose must not be less than that required to achieve the claimed log credit for the duration of any consecutive 15-minute period. Turbidity must not exceed 5.0 NTU for the duration of any consecutive 15-minute period. UVT must meet or exceed 95% of the LIVT for which the 	McPhedrons Rd. Supply (plant) Cust Mandeville	Treatm <i>Missing</i> <i>due to s</i> <i>to recov</i> <i>on 9 Fea</i> <i>requirea</i> <i>Missing</i> <i>due to s</i> <i>to recov</i>	ent Complian minutes reco supply wide SC ver all data. Th b-24. Otherwis ments were m minutes reco supply wide SC ver all data. Th	ce rded during 10 Jan-24 CADA failure and inability here was a similar outage se, UV and turbidity et. 364/366 days. rded during 10 Jan-24 CADA failure and inability here was an issue with
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T3.87 T3.88 T3.89	 exceed that required to achieve the claimed log credit for at least 95% of each day. The UV dose must not be less than that required to achieve the claimed log credit for the duration of any consecutive 15-minute period. Turbidity must not exceed 5.0 NTU for the duration of any consecutive 15-minute period. UVT must meet or exceed 95% of the UVT for which the reactor has been certified for at least 95% of each day. 	McPhedrons Rd. Supply (plant) Cust Mandeville	Treatm Missing due to s to recove on 9 Fe required Missing due to s to recove missing was als	ent Complian minutes reco supply wide SC ver all data. Th b-24. Otherwis ments were m minutes reco supply wide SC ver all data. Th minutes for 3 o an issue wit	ce rded during 10 Jan-24 CADA failure and inability here was a similar outage se, UV and turbidity et. 364/366 days. rded during 10 Jan-24 CADA failure and inability here was an issue with 8 days in Feb-24. There h UVT in April-24
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T3.87 T3.88 T3.89 T3.90	 exceed that required to achieve the claimed log credit for at least 95% of each day. The UV dose must not be less than that required to achieve the claimed log credit for the duration of any consecutive 15-minute period. Turbidity must not exceed 5.0 NTU for the duration of any consecutive 15-minute period. UVT must meet or exceed 95% of the UVT for which the reactor has been certified for at least 95% of each day. UVT must not be less than 80% of the lowest UVT for which the reactor has been certified for the duration of any consecutive 15-minute period 	McPhedrons Rd. Supply (plant) Cust Mandeville Waikuku Beach Kings Ave Waikuku Beach Campground	Treatm Missing due to s to recove on 9 Fea require Missing due to s to recove on 9 Fea require Missing due to s to recove on 9 Fea require due to s to recove on 9 Kea to recove	ent Complian minutes reco supply wide SC ver all data. Th b-24. Otherwin ments were m minutes reco supply wide SC ver all data. Th minutes reco supply wide SC ver all data. Th b-24. Otherwin ments were m minutes reco supply wide SC ver all data. Th b-24. Otherwin ments were m minutes reco supply wide SC ver all data. Th b-24. Otherwin ments were m minutes reco	ce rded during 10 Jan-24 CADA failure and inability here was a similar outage se, UV and turbidity ret. 364/366 days. rded during 10 Jan-24 CADA failure and inability here was an issue with a days in Feb-24. There h UVT in April-24 urbidity requirements ays. rded during 10 Jan-24 CADA failure and inability here was a similar outage se, UV and turbidity here during 10 Jan-24 CADA failure and inability here was a similar outage se, UV and turbidity here was a similar outage herwise, UV and turbidity
T3.87 T3.88 T3.89 T3.90	 exceed that required to achieve the claimed log credit for at least 95% of each day. The UV dose must not be less than that required to achieve the claimed log credit for the duration of any consecutive 15-minute period. Turbidity must not exceed 5.0 NTU for the duration of any consecutive 15-minute period. UVT must meet or exceed 95% of the UVT for which the reactor has been certified for at least 95% of each day. UVT must not be less than 80% of the lowest UVT for which the reactor has been certified for the duration of any consecutive 15-minute period 	McPhedrons Rd. Supply (plant) Cust Mandeville Waikuku Beach Kings Ave Waikuku Beach Campground	Treatm Missing due to s to recover on 9 Fer required due to s to recover missing was als Otherwer were m Missing due to s to recover on 9 Fer required to recover on 9 & required	ent Complian minutes reco supply wide SC ver all data. Th b-24. Otherwis ments were m minutes reco supply wide SC ver all data. Th minutes for 3 o an issue wit ise, UV and tu et. 361/366 d minutes reco supply wide SC ver all data. Th b-24. Otherwis ments were m minutes reco supply wide SC ver all data. Th b-24. Otherwis ments were m minutes reco supply wide SC ver all data. Th 12 Feb-24. Oth ments were m	ce rded during 10 Jan-24 CADA failure and inability here was a similar outage se, UV and turbidity net. 364/366 days. rded during 10 Jan-24 CADA failure and inability here was an issue with days in Feb-24. There h UVT in April-24 urbidity requirements lays. rded during 10 Jan-24 CADA failure and inability here was a similar outage se, UV and turbidity here. 364/366 days. rded during 10 Jan-24 CADA failure and inability here was a similar outage se, UV and turbidity here was a similar outage herwise, UV and turbidity here was a similar outage
T3.87 T3.88 T3.89 T3.90	 exceed that required to achieve the claimed log credit for at least 95% of each day. The UV dose must not be less than that required to achieve the claimed log credit for the duration of any consecutive 15-minute period. Turbidity must not exceed 5.0 NTU for the duration of any consecutive 15-minute period. UVT must meet or exceed 95% of the UVT for which the reactor has been certified for at least 95% of each day. UVT must not be less than 80% of the lowest UVT for which the reactor has been certified for the duration of any consecutive 15-minute period 	McPhedrons Rd. Supply (plant) Cust Mandeville Waikuku Beach Kings Ave Waikuku Beach Campground Oxford Rural	Treatm Missing due to s to recover on 9 Fer required Missing due to s to recover was als Otherwer were m Missing due to s to recover on 9 Fer required Missing due to s to recover on 9 Fer required for recover on 9 Fer required for recover and the source on 9 Ker required for recover for recover for recover on 9 Ker required for recover for recover for recover on 9 Ker required for recover for recover for recover for recover for recover for recover for recover for for recover for for the for the for for the for the for for the for the for for the for for the for the for for the for the for for the for the for for the for the for for the for for the for the for the for the for the for for the for the for the for the for the for the for for the for the for the for the for the for the for the for fo	ent Complian minutes reco supply wide SC ver all data. Th b-24. Otherwis ments were m minutes reco supply wide SC ver all data. Th minutes for 3 o an issue wit ise, UV and tu et. 361/366 d minutes reco supply wide SC ver all data. Th b-24. Otherwis ments were m minutes reco supply wide SC ver all data. Th 12 Feb-24. Oth ments were m ff from 19/8-2	ce rded during 10 Jan-24 CADA failure and inability here was a similar outage se, UV and turbidity net. 364/366 days. rded during 10 Jan-24 CADA failure and inability here was an issue with 8 days in Feb-24. There h UVT in April-24 while the the the the the rded during 10 Jan-24 CADA failure and inability here was a similar outage se, UV and turbidity here was a similar outage se, UV and turbidity here was a similar outage the the the the the the the the the the CADA failure and inability here was a similar outage the the the the the the the the the the
T3.87 T3.88 T3.89 T3.90	 exceed that required to achieve the claimed log credit for at least 95% of each day. The UV dose must not be less than that required to achieve the claimed log credit for the duration of any consecutive 15-minute period. Turbidity must not exceed 5.0 NTU for the duration of any consecutive 15-minute period. UVT must meet or exceed 95% of the UVT for which the reactor has been certified for at least 95% of each day. UVT must not be less than 80% of the lowest UVT for which the reactor has been certified for the duration of any consecutive 15-minute period 	McPhedrons Rd. Supply (plant) Cust Mandeville Waikuku Beach Kings Ave Waikuku Beach Campground Oxford Rural No.1 - No.1 -	Treatm Missing due to s to recove on 9 Fer required Missing due to s to recove missing was als Otherwe were m Missing due to s to recove on 9 Fer required Missing due to s to recove on 9 Fer required Missing due to s to recove on 9 Ker required Missing due to s to recove on 9 Ker required Missing due to s to recove on 9 Ker required Missing	ent Complian minutes reco supply wide SC ver all data. Th b-24. Otherwin ments were m minutes reco supply wide SC ver all data. Th minutes for 3 o an issue with ise, UV and tu et. 361/366 d minutes reco supply wide SC ver all data. Th b-24. Otherwin ments were m minutes reco supply wide SC ver all data. Th 12 Feb-24. Oth ments were m ff from 19/8-2 on 334 days. U	ce rded during 10 Jan-24 CADA failure and inability here was a similar outage se, UV and turbidity net. 364/366 days. rded during 10 Jan-24 CADA failure and inability here was an issue with 8 days in Feb-24. There h UVT in April-24 wrbidity requirements days. rded during 10 Jan-24 CADA failure and inability here was a similar outage se, UV and turbidity here was a similar outage herwise, UV and turbidity here was a similar outage herwise, UV and turbidity here was a similar outage herwise, UV and turbidity
T3.87 T3.88 T3.89 T3.90	 exceed that required to achieve the claimed log credit for at least 95% of each day. The UV dose must not be less than that required to achieve the claimed log credit for the duration of any consecutive 15-minute period. Turbidity must not exceed 5.0 NTU for the duration of any consecutive 15-minute period. UVT must meet or exceed 95% of the UVT for which the reactor has been certified for at least 95% of each day. UVT must not be less than 80% of the lowest UVT for which the reactor has been certified for the duration of any consecutive 15-minute period 	McPhedrons Rd. Supply (plant) Cust Mandeville Waikuku Beach Kings Ave Waikuku Beach Campground Oxford Rural No.1 - McPhedrons	Treatm Missing due to s to recover on 9 Fear requires Missing due to s to recover Missing due to s to recover on 9 Fear requires Missing due to s to recover on 9 Fear requires to recover on 9 Kear requires to recover on 9 Kear requires	ent Complian minutes reco supply wide SC ver all data. Th b-24. Otherwis ments were m minutes reco supply wide SC ver all data. Th minutes for 3 o an issue wits ise, UV and tu et. 361/366 d minutes reco supply wide SC ver all data. Th b-24. Otherwis ments were m minutes reco supply wide SC ver all data. Th b-24. Otherwis ments were m minutes reco supply wide SC ver all data. Th 12 Feb-24. Oth ments were m ff from 19/8-2 on 334 days. U	ce rded during 10 Jan-24 CADA failure and inability here was a similar outage se, UV and turbidity ret. 364/366 days. rded during 10 Jan-24 CADA failure and inability here was an issue with a days in Feb-24. There h UVT in April-24 urbidity requirements lays. rded during 10 Jan-24 CADA failure and inability here was a similar outage se, UV and turbidity here was a similar outage se, UV and turbidity here was a similar outage se, UV and turbidity here was a similar outage herwise, UV and turbidity

	Supply (plant)	Treatment Co	ompliance	
T2 cartridge filtration T2 UV disinfection	Garrymere	This plant me bacterial and chlorine, filtro months .	t all the requirements for protozoa compliance using ation and UV for all 12/12	
What parameters and timeframe	Insert commen	nts on paramete	ers and timeframes audited	
were audited and from which				
supplies?	For UV disinfec transmittance compliance. M on non-compli SCADA data us evidence was c	cted supplies the and turbidity an onthly summar ance were chec red to verify clai available in ID o	e flow, UV dose, UV re monitored and used for ies are shown in ID. Instanc ked during the site visit and ims of compliance. Appropr r SCADA.	ces 1 riate
What log credits are possible for	Insert treatme	nt in place for e	ach treatment plant, and lo	oa
each treatment process? – Which	removal availa	ible v met.		5
ones achieved those log credits				
and why?	Supply	Protozoa	Applicable Treatment rule	
	(plant)	Treatment	and compliance	
Total log credits achieved: all	Cust	UV	T3 (UV Rules) 3-log	
treatment processes combined			364/366 days met	
	Garrymere	Cartridge filter	T2 (filter & UV) 4-log	
		& UV	12/12 months met	
	Mandeville	UV	T3 (UV Rules) 3-log	
	Waikuku	LIV only	T3 (IIV Rules) 3-log	
	Beach - Kings	ov only	364/366 days met.	
	Ave			
	Waikuku	UV only	T3 (UV Rules) 3-log	
	Beach -		363/366 days met	
	Campground			
	Oxford Rural	UV only	T3 (UV rules) 3-log	
	NO.1 - McPhedrons		59/334 days met	
	Rd			
Method of determining	Insert commen	nts on complian	ce demonstration.	
compliance eg checked all raw		··· · · · · · · · · · · · · · · · · ·		
data, used excel to graph data,	Infrastructure	Data is used for	^r compliance demonstration	п.
other method – where is this data	Reports are ge	nerated and se	nt directly from the databa	se.
recorded?	It is extremely	difficult to man	ipulate the raw data in ID s	50
	when a non-co	mpliance is sta	ted by the database an	
	exception com	ment must be a	ndded if the supplier has oth	her
	data or inform	ation available.	Unfortunately whenever	
	Lutra update ti	he ID database	all the previous comments	
	disappear. Wh	en it was unclea	ar in ID then further	
	information wo	as requested to	confirm compliance.	

DISTRIBUTION ZONE

Residual Disinfection, Disinfection By-product, and Plumbosolvent Metal rules.

Record compliance criterion	Insert each zone r	name, popula	tion and Hinekor	ako code.
used. – and compliance				
periods for these criterion	Supply (zone)	Treatment	Zone rule	
	Ashley Gorge	Chlorine	D2	
	Cust	Chlorine	D2	
The compliance monitoring	Garrymere	chlorine	D2	
period is one month for both	Kaiapoi	Chlorine	D3	
D2 and D3 supplies.	Mandeville	Chlorine	D3	
	Ohoka	Chlorine	D2	
	Oxford Rural No.1	Chlorine	D3	
	Oxford Urban &	Chlorine	D3	
	Rural No.2 – Rural			
	No.2			
	Oxford Urban &	Chlorine	D3 (chlorine f	from
	Rural No.2 - Urban		Nov-23)	
	Woodend &	Chlorine	D3	
	Pegasus – Pegasus	S Childreine	D 2	
	Woodend &	Chlorine	D3	
	Pegasus –			
	Pangiora	Chlorino	D2 (chloring)	from
	Nangiora	chionne	Nov-23)	ioni
	Waikuku Beach	Chlorine	D3 (chlorine i	from
		chiornic	Nov-23)	
	West Eyreton -	Chlorine	D3	
	West Evreton -	Chlorine	D3	
	Summerhill	Chiorine	03	
	West Eyreton –	Chlorine	D3	
	West Eyreton			
Summary of results	Insert details of F	AC monitorin	g in each zone. H	ow is FAC
completed for inclusion in	monitored and w	here are the i	results recorded.	
report (eg review data from				
database) – What parameters				
and timeframe were audited?	All zones less thar	n 25.000 so 3	x weeklv monitor	rina reauired
	under D3. Twice w	veeklv is reau	ired under D2.	5 - 1
D3.19 A FAC of at least 0.2 mg/L				
must be maintained in	Table 35: FAC mo	nitorina freau	iencies.	
85% of samples (or 85% of	Distribution	Number of	Maximum	Minimum
the time if continuously	zone population	samples per	interval between	number of days
samples (or 15% of the		week	samples (days)	of the week used
time if continuously	<25,000	3	4	5
monitored) may have a				
FAC of less than 0.2 mg/L				
but must be greater than				
U.1 mg/L				

D3.20 Samples must be			
collected for FAC at the	Determinand		frequency
frequencies outlined in table 35.	Disinfection b	y-products	Each distribution zone (1 per quarter-can be reduced to 1 per year after 2 years below 50% MAV)
Note: not for reporting but check that underway	Plumbosolven - Antimony, ca chromium, co mercury, nicke	it metals admium, pper, lead, el, zinc.	Each distribution zone (every 6 months -can be reduced to 1 per year after 2 years below 50% MAV)
	Disinfection ongoing.	by-products o	and plumbosolvency monitoring
Comments on whether compliance criterion met /	Insert comm	ents on com	pliance demonstration.
not met and reasons	Summarised	compliance	information is in the table below.
	<u>D3 zones (ma</u>	anual 3 x we	<u>ek)</u>
	A FAC of at le	east 0.2 mg/l	L must be maintained 85% of the time
CMP for manual chlorine monitoring is one month.	and always g	greater than	0.1 mg/L.
	Kaiapoi	FAC 3 x week, One sample samples not than 85% and	maximum interval and days of the week met. missed in Jan-24 so overall the number of met for that month. FAC above 0.2 for more none less than 0.1ma/L (11/12 months met).
	Pegasus	FAC 3 x week, One sample samples not than 85% and	maximum interval and days of the week met. missed in Jan-24 so overall the number of met for that month. FAC above 0.2 for more none less than 0.1mg/L (11/12 months met).
	Woodend	FAC 3 x week, One sample samples not than 85% and	, maximum interval and days of the week met. missed in Jan-24 so overall the number of met for that month. FAC above 0.2 for more I none less than 0.1mg/L (11/12 months met).
	West	FAC 3 x week	, maximum interval and days of the week met.
	Eyreton	One sample	missed in Jan-24 so overall the number of
	zone	than 85% and	met for that month. FAC above 0.2 for more in the form of the form
	Poyntzs	FAC 3 x week,	, maximum interval and days of the week met.
	Road	One sample	missed in Jan-24 so overall the number of
	zone	than 85% and	none less than 0.1ma/L (11/12 months met).
	Summerhill	FAC 3 x week	, maximum interval and days of the week met.
	distribution zone	Sample misse not met for t	ed in Jan-24 so overall the number of samples hat month. FAC above 0.2 for more than 85%
		and none less	than 0.1mg/L (11/12 months met).
	Mandeville	FAC 3 x week,	, maximum interval and days of the week met.
		samples not	met for that month. FAC above 0.2 for more
		than 85% and	none less than 0.1mg/L (11/12 months met).
	Oxford Rural	FAC 3 x week	, maximum interval and days of the week met.
		number of sa	mples not met for those months. FAC above 0.2
		for more the	an 85% and none less than 0.1mg/L (10/12
	Outout	months met)	
	Uxford Urban &	interval and a	rom 31 UCT-23. FAC 3 X Week, maximum lays of the week met. Two samples missed in
	Rural No.2 -	Jan-24 and M	lar-24 so overall the number of samples not
	Urban	met for those	months. FAC above 0.2 for more than 85%

	distribution zone Oxford Urban & Rural No.2 - Rural No.2 distribution	and none less than 0.1mg/L (6/12 months met, 6/8 months once chlorine in place). FAC 3 x week, maximum interval and days of the week met. Samples missed in Jan-24 and Mar-24 so overall the number of samples not met for those months. FAC above 0.2 for more than 85% and none less than 0.1mg/L (10/12 months met).
	Rangiora	Chlorinated from 14/11/23. FAC 3 x week, maximum interval and days of the week met. One sample missed in Jan-24 so overall the number of samples not met for that month. FAC above 0.2 for more than 85% and none less than 0.1mg/L (6/12 months met, 7/8 months once chlorine in place). Chlorinated from 7/11/23. FAC 3 x week, maximum interval
	Beach	and days of the week met. One sample missed in Jan-24 so overall the number of samples not met for that month. FAC above 0.2 for more than 85% and none less than 0.1mg/L (6/12 months met, 7/8 months once chlorine in place).).
	<u>D2 zones (n</u> A FAC of at and always	<u>nanual 2 x week)</u> least 0.2 mg/L must be maintained 80% of the time greater than 0.1 mg/L.
	Ashley Gorge	FAC 2 x week, minimum interval met and nothing less than 0.1 mg/L. Monitoring frequency and results complied. This supply was connected to Oxford #2 on 12 Dec-23 (6/6)
	Cust	FAC 2 x week, minimum interval met and nothing less than 0.1 mg/L. Monitoring frequency and results complied except for Jan-24. (11/12)
	Garrymere	FAC 2 x week, minimum interval met and nothing less than 0.1 mg/L. Monitoring frequency and results complied except for some results from Jul-23 which couldn't be recovered from the Infrastructure Data database. (11/12)
	Ohoka	FAC 2 x week, minimum interval met and nothing less than 0.1 mg/L. Monitoring frequency and results complied except for Oct-23, Dec-23 and Jan-24. (9/12)
Method of determining compliance eg checked all raw data, used excel to graph data, other method – where is this data recorded?	Consider ch or database Checked mo review the o samplers. So these are no	ecking raw results from either manual sample forms e if entered directly. onthly summaries in ID and then the forms section to actual monitoring information as it is entered by the ome zones also have continuous chlorine analysers, ot used for compliance but are occasionally used to
	backfill a sa	impling gap or aberrant result.

Microbiological monitoring rules

Record compliance c	iterion Insert e	each zone r	name,	popula	tion and Hinekora	ako code.
used. – and com	oliance					
periods for these criter	on Supply	(zone)			Treatment	Zone rule
	Ashley	Gorge			Chlorine	D2
	Cust				Chlorine, UV	D2
	Garryn	nere			Cartridge filter & U chlorine	JV, D2
	Kaiapo	oi			Chlorine	D3
	Mande	eville			UV, chlorine	D3
	Ohoka				Chlorine	D2
	Oxford	l Rural No.1	L		Chlorine & UV from April 2024	m D3
	Oxford Rural N	l Urban & R No.2	tural No).2 -	Chlorine	D3
	Oxford Urban	l Urban & R	lural No).2 -	Chlorine from Nov	/-23 D3
	Pegasu	ls			Chlorine	D3
	Woode	end			Chlorine	D3
	Rangio	ora			Chlorine	D3
	Waiku	ku Beach			Chlorine & UV	D3
	West E	Eyreton – Po	oyntzs F	۲d	Chlorine	D3
	West E	Eyreton - Su	ımmerh	ill	Chlorine	D3
	West E	Eyreton – W	/est Eyr	eton	Chlorine	D3
Summary of results completed for inclusion report (eg review data database) – What paran and timeframe were au D3.29 E. coli and total co must be monitore each zone of the	in rom Infrastr heters required lited? forms D3. Mo in	letails of E cucture Dat ments and es less thar nitoring u	coli ar ta data report n 25,00 nder D.	nd total abase a ts comp 00 so w 2 is mo	coliform monitor utomatically calco pliance against the eekly monitoring nthly.	ring in each zone ulates the em. required under
distribution system	Table 3	9. Microbi	ologica	al samp	ling frequencies.	
according to the frequencies set ou	in Distribu	opulation	Numbe sample: week	r of s per	Maximum interval between samples (days)	Minimum number of days of the week used
	<25,000	0	1		9	5
Comments on whether compliance criterion m	et /	Insert co	mment	ts on co	ompliance demon	stration.
				D3 zon	es (weekly)	
	Su	pply (zone))	Frequency and result		
	Каіаро	Kaiapoi Monito		1onitori 2/12 m	itoring frequency and results complied. 2 months met .	
	Mande	eville	N w 2∶	1onitori vith the 3. 11/12	ng frequency and re exception of a miss 2 months met.	esults complied ed sample in Oct-

	Oxford Rural No.1	Monitoring frequency and results complied. 12/12 months met.
	Oxford Urban & R No.2 - Rural 2	Rural Monitoring frequency and results complied. 12/12 months met.
	Oxford Urban & R No.2 - Urban	Rural Monitoring frequency and results complied. 12/12 months met.
	Pegasus	Monitoring frequency and results complied. 12/12 months met.
	Woodend	Monitoring frequency and results complied. 12/12 months met.
	Rangiora	Monitoring frequency and results complied. 12/12 months met.
	Waikuku Beach	Monitoring frequency and results complied. 12/12 months met.
	West Eyreton - Poyntzs Rd	Monitoring frequency and results complied. 12/12 months met .
	West Eyreton - Summerhill	Monitoring frequency and results complied. 12/12 months met.
	West Eyreton - W Eyreton	<pre>/est Monitoring frequency and results complied. 12/12 months met.</pre>
		D2 zones (monthly)
	Supply (zone)	Frequency and result
	Ashley Gorge	Monitoring frequency and results complied. This
		supply was connected to Oxford #2 on 12/12/23 (6/6 met).
	Cust	Monitoring frequency and results complied. 12/12 months met.
	Garrymere	Monitoring frequency and results complied. 12/12 months met.
	Ohoka	Monitoring frequency and results complied. 12/12 months met.
Method of determining		······································
compliance eg checked all raw	Check Laboratory	reports and compare to database (if used).
data, used excel to graph data, other method – where is this data recorded?	Check Laboratory Hills Laboratory r undertaken on 31 and 13/2/24.	eports and compare to database (if used). eports for Total coliform and E.coli sampling 1/1/24, 1/2/24, 5/2/24, 6/2/24, 8/2/24, 9/2/24

DATA AUDIT

Does the audited data align with data that was reported to Taumata Arowai?	WDC use the Infrastructure Data database and manual spreadsheets for compliance.
	WDC reporting to Taumata Arowai directly from ID has not been done for all supplies for the compliance period. Initially reports were sent manually. Taumata Arowai require reporting to be done via the Hinekorako database.
	WDC have reported compliance and also included a number of exceptions to demonstrate compliance, however it is unknown if Taumata Arowai has accepted these exceptions.
	MMC have used professional experience and judgement in some circumstances when there is no historical guidance, precedent or advise from Taumata Arowai. In these situations it is possible that Taumata Arowai will not agree with WDC's claims of compliance and MMC's logic for the decision.
If data doesn't align, what action is to be taken	Insert any information about inconsistent data or findings that do not align with what is reported.



565 Taaffes Glen Road Canterbury 7472

26 October 2024

Councillor Niki Mealings The Chairperson Utilities and Roading Committee Waimakariri District Council

We presented a submission to the Utilities and Roading Committee on 23 February 2023 requesting that Council maintenance of Taaffes Glen Road be extended to the gateway of Roundhill Farm.

We would like to acknowledge that contractors have improved parts of Taaffes Glen Road, with shingle recently being laid to just past the area where they were extracting metal from the Okuku River. Shingle being laid to just before Fox Creek - the end point of Waimakariri District Council road maintenance programme prior to 2021. Carl Grabowski, Roading Operations Team Leader Waimakariri District Council, told us on 11 October 2022 that the Council was extending their maintenance of Taaffes Glen road to the entrance to Okuku Range Forest (561 Taaffes Glen Road). However, there has been no maintenance work on the section of Taaffes Glen Road between Fox Creek and the entrance to 561 Taaffes Glen Road since 11 October 2022.

It is now 20 months since we made our submission to the Roading and Utilities Committee. Mayor Gordon, during the meeting, *requested that a report on the matter be brought to the Council with some urgency*. We understood that the Council team would need some time to follow up. However we have not yet received any communication or a decision from the Roading and Utilities Committee.

The number of cars using Taaffes Glen Road and parking in the car parks near to our farm entrance continues to increase. We are, therefore, writing to ask has a decision been made?

Thank you

Karen Stewart and Giles Lancaster

WAIMAKARIRI DISTRICT COUNCIL

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REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-32-16-07 / 240802128102
REPORT TO:	OXFORD-OHOKA COMMUNITY BOARD
DATE OF MEETING:	7 th November 2024
AUTHOR(S):	Dominic Mansbridge – Project Engineer Shane Binder – Senior Transportation Engineer
SUBJECT:	Approval to Install No-stopping Restrictions Along the Frontage of no. 464 Mandeville Road, Mandeville
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager Chief Executive

1. SUMMARY

- 1.1. The purpose of this report is to seek approval to establish no-stopping restrictions along the frontage of no. 464 Mandeville Road, Mandeville.
- 12 The no-stopping restrictions are proposed outside of no. 464 Mandeville Road as per the attached Plan of proposed No Stopping (refer attachment i). The extent of the no-stopping restriction requested is a total of 19.0 m (11m east of the Mandeville Village entry and 8 m west of the entry to 464 Mandeville Road).
- 1.3. Parking outside no. 464 Mandeville Road is an historic issue, since the development of the Mandeville Village, with vehicles parking too close to the access way for the Mandeville Village, creating site distance issues for vehicles exiting the commercial area.
- 1.4. There is also planned development of a hire centre at no. 464 Mandeville Road, and stage two of the Mandeville Village is expected to exacerbate these historic parking issues.,
- 1.5. The addition of no stopping lines outside of no. 464 Mandeville Road in conjunction with formalised parallel parking spaces aims to manage this issue.

Attachments:

i. Plan of proposed No Stopping (Trim No. 240802128138)

2. **RECOMMENDATION**

THAT the Oxford-Ohoka Community Board:

(a) Receives Report No. 240802128102.

AND

THAT the Oxford-Ohoka Community Board recommends:

THAT the Utilities and Roading Committee:

(b) Approves the installation of no-stopping restrictions on the northern side of Mandeville Road, for a distance of 11m east of the Mandeville Village entry and 8m west of the entry to no. 464 Mandeville Road.

- (c) **Notes** that although the Hire Centre has not yet been constructed, staff will proceed with the installation of the no-stopping lines upon acceptance of this report, in line with discussions with the adjacent landowner.
- (d) **Notes** that there is a resource consent application under review (RC245278) for further development of the Mandeville Village. The recommendations of this report are separate to this application and will have no bearing on its outcome.

3. BACKGROUND

- 3.1. The Mandeville Village centre established at no. 468 Mandeville Road following a plan change process (Plan Change 33) undertaken during 2014-2015 that created the operative Business 4 zoning of the site.
- 3.2. The plan change introduced the relevant objectives and policies for the Mandeville North Business Zone (16.1.3) which outline the role for the area to appropriately provide commercial services to meet the needs of the Mandeville, Ohoka and Swannanoa catchment.
- 3.3. Issues with insufficient parking arose shortly after the construction of the Mandeville Village leading to users and staff of the Village parking on surrounding roadside berms on Tram, McHughs and Mandeville Road.
- 3.4. Informal carparking was established within the plantation reserve area to the west of the commercial development, to help provide overflow parking for busy times, and to take some of the pressure off parking on Mandeville Road.
- 3.5. A project was included within the Minor Safety programme to formalise the area to the east of the Mandeville Villages access on Mandeville Road, aiming to provide better parking discipline and allowing for safe pedestrian access into the village in this location.
- 3.6. In 2022 an additional 44 parking spaces were constructed within the development area to help alleviate the parking demand for the Mandeville Village, and to cater for further development. At the time of writing this report, this additional parking has largely resolved the issue of parking on surrounding berms, including the issues with visibility when exiting the Mandeville Village access.
- 3.7. There is a resource consent application under review (RC245278) for further development of the Mandeville Village. The recommendations of this report are separate to this application and will have no bearing on its outcome however if approved along with a new Hire Centre at 464 Mandeville Road (which has resource consent) these developments will result in increased parking demand and an additional access being required off Mandeville Road.
- 3.8. New kerb and channel has been installed outside 464 Mandeville Road to formalise the parking in this area, and in conjunction with the developer, the new vehicle crossing to the development has been installed at the same time to prevent re-work There is a need to balance maximising parking spaces with the requirement for safe sight lines for vehicles entering Mandeville Road from both the new Hire Centre entrance and the Mandeville Village access.

Tan Road Management Management Management Mandeville Village Mandeville Village

Figure 1 - Location of Property

4. ISSUES AND OPTIONS

- 4.1. There is an access from the Mandeville Village Commercial area to Mandeville Road in which site distances need to be considered. The new entrance to the proposed Mandeville Hire Business at 464 Mandeville Road is located approximately 25m to the east of this right of way.
- 4.2. It is acknowledged that there is sufficient room to install an additional two formalised parking spaces between the Hire Centre and the right of way to the Mandeville Village. This was originally considered by Council Staff; however, the additional parking will impact site distances for the users of both of these accesses.
- 4.3. The current speed limit along Mandeville Road in this location is 80 kilometres per hour. The new Hire Centre will cater for larger vehicles including trucks and vehicles with trailers; these vehicles will have slower acceleration speeds and so increasing the site distances by reducing parking is beneficial to allow time for vehicles to enter Mandeville Road safely.
- 4.4. Without formalised parking restrictions, road users may park up to one metre from an entranceway; this will impact the site distance for users exiting both the Mandeville Village and the new Mandeville Hire Centre.



Figure 2. Extent of no-stopping restrictions.

- 4.5. The Oxford-Ohoka Community Board have the following options available to them:
 - 4.5.1. Option One: Approve the installation of no-stopping restrictions.

Approve the recommendations of this report and the install no-stopping restrictions as shown on Figure 2, and within attachment i. This option reduces the on-street parking spaces outside this address to four, however improves sight lines for those using the accesses, and as such improves safety in this area of Mandeville Road.

This is the recommended option as it provides the safest outcome for road users in the area. It is also supported by the developer of the proposed Mandeville Hire Business

4.5.2. Option Two: Maximise Carparking.

Decline the installation of no stoppings and instead relies on the minimum provisions of the Road User Rule.

This is not the recommended option as this would impact site distances for users of both accesses along Mandeville Road which is 80km/h road with a high level of activity around the commercial area.

4.6. Implications for Community Wellbeing

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

The installation of the proposed no-stopping restrictions improves safety at the two accesses; however, it will also remove three car parks from the on-road supply.

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

5. <u>COMMUNITY VIEWS</u>

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 property owner at no. 464 Mandeville Road has requested that no-stopping restrictions are considered and is therefore supportive of the recommendations within this report.

Installing no stopping lines will improve the safety for users of the Mandeville Village.

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 and this budget is included in the Annual Plan/Long Term Plan.

There are minimal costs associated with installing no-stopping lines in this location, as all it involves is line marking. These costs can be accommodated within the Road Maintenance budgets.

6.2. Sustainability and Climate Change Impacts

The recommendations in this report do not have sustainability and/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 health and safety risks arising from the adoption/implementation of the recommendations in this report.

These risks are associated with the physical works required to install the no-stopping restrictions. Physical works will be undertaken through the Road Maintenance Contract, in which, the contractor has a Health and Safety Plan, and a SiteWise score of 100.

7. <u>CONTEXT</u>

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.

The relevant community outcomes are:

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.

Environmental:

...that values and restores our environment...

• The natural and built environment in which people live is clean, healthy and safe.

Economic:

...and 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 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.



WAIMAKARIRI DISTRICT COUNCIL

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REPORT FOR DECISION

FILE NO and TRIM NO:	BAC-03-123-01 / 241004171746
REPORT TO:	RANGIORA ASHLEY COMMUNITY BOARD
DATE OF MEETING:	13 November 2024
AUTHOR(S):	Dominic Mansbridge – Project Engineer
	Gina Maxwell – Project Support Coordinator
SUBJECT:	Approval of Design for 309 High Street Car Park Design
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager Chief Executive

1. <u>SUMMARY</u>

- 1.1. The purpose of this report is to seek approval of the scheme design for the 309 High Street Car Park, to allow staff to progress to the detailed design phase of the project (see Attachment i).
- 1.2. The proposed car park design meets all medium-term requirements outlined in the Proposed District Plan, including specific dimensions for aisle widths and parking space sizes. To enhance user manoeuvrability, an additional 200mm has been added to the width of each parking space beyond the minimum requirements.
- 1.3. Staff have consulted with the operators of the Town Hall, as well as the neighbouring property owners and the Rangiora Borough School prior to finalising the scheme design.

Attachments:

i. Scheme Plan for 309 High Street (Trim no. 241024185526).

2. <u>RECOMMENDATION</u>

THAT the Rangiora Ashley Community Board:

- (a) **Receives** Report No. 230919145813.
- (b) **Endorses** the Scheme Plan for the proposed car park at 309 High Street (Trim no. 241024185526)
- (c) **Notes** that the design allows for a total of 57 additional off-road parking spaces (including three mobility parks)
- (d) **Notes** that the design retains 16 existing off-road parking spaces (including one mobility park) within 303 High Street (the existing car-park behind the Town Hall)
- (e) **Notes** that the design allows for one additional on-road mobility parking space on High Street, outside the Town Hall.
- (f) Notes that to utilise the existing right of way easement to Church Street would result in a reduction of four parking spaces, and as such the recommended design does not seek to utilise this easement.

(g) **Notes** that due to District Plan car park requirements, the additional width available due to existing vehicle access ways, did not result in additional parking capacity. These areas are proposed to be developed into a functional space for gathering, cycle parking, and refuse collection.

AND

THAT the Rangiora-Ashley Community Board recommends:

THAT the Utilities and Roading Committee:

- (h) **Approves** the Scheme Plan for the proposed car park at 309 High Street (as per Trim no. 241024185526)
- (i) **Approves** the establishment of an additional mobility parking space on High Street, outside the Rangiora Town Hall
- (j) **Notes** the existing mobility parking, and P5 parking spaces on High Street outside the Town Hall will remain as is.
- (k) **Notes** that the existing mobility parking within the existing Town Hall car park (accessed off King Street) will remain following the completion of the car park redevelopment.

AND

THAT the Rangiora-Ashley Community Board recommends:

THAT the District Planning and Regulation Committee:

- (I) **Approves** the establishment of a 180-minute time restriction to all car parks within the extent of the "Town Hall Car Park" (Trim no. 241024185526).
- (m) **Notes** that a 180-minute time restriction is considered appropriate to ensure that movie goers attending movies of a longer duration will not be fined for overstaying.
- (n) **Notes** the existing P5 parking spaces on High Street outside the Town Hall will remain as is.
- (o) **Notes** that the existing mobility parking, and the proposed additional mobility parking on High Street outside the Town Hall will remain unrestricted.

3. <u>BACKGROUND</u>

- 3.1. The property is located at 309 High Street, Rangiora. It is the location of the abandoned Rangiora Police Station.
- 3.2. Council Purchased the property in May 2024 and staff are currently tendering a contract to demolish the building which closes on November 13, 2024, it is expected that this demolition work will be completed in early February 2025.
- 3.3. The construction of a new car park is intended to follow on directly from the demolition contract. The addition of parking for the Town Hall Cinemas helps encourage people to enjoy the Rangiora Town Centre, and ease parking demand for the rest of the town centre. Longer term the Council may utilise this land for another strategic purpose.

4. ISSUES AND OPTIONS

4.1. Entry and Exit Points

Staff have considered the existing vehicle entrances to both No. 303 High Street (Town Hall), and 309 High Street (former Police Station). Each property has a vehicle entrance off both King Street. While No. 309 High Street has two existing vehicle accesses on High Street, as well as an access off Church St. With the amalgamation of the car-parks, the design must consider the best use of vehicle entrances to the combined site.
- 4.1.1. The scheme design has been developed to make use of the existing entrance to the Town Hall Car Park on King Street. To facilitate the connection between the Town Hall Car Park and the new car park, the existing brick boundary wall will need to be demolished. Initially, Council staff considered using the current entrance off King Street to 309 High Street and completely realigning the parking layout to optimize space; however, this option was deemed impractical due to the presence of a Mainpower kiosk that would require relocation which was cost prohibitive. The proposed design does demolish the existing brick boundary wall however the purpose of this is to widen the aisle width without relocating the Mainpower kiosk.
- 4.1.2. The existing King Street entrance to No.309 High Street is retained within the proposed layout which will also allow for the rubbish skips from the Town Hall to be relocated to the South of site. Rubbish trucks will be able to enter the site for efficient bin collection without disrupting car park users, thereby enhancing public safety. This configuration is illustrated in Figure One below:



Figure 1 - Current and Proposed Entrances from King Street

- 4.1.3. The existing western entrance off High Street to the old police Station will be utilised giving the car park two entry and exit points. The scheme design proposes to remove the second (eastern) entrance to limit vehicle and pedestrian conflict points.
- 4.1.4. There is an existing right of way onto Church Street that Council Staff investigated utilising, however utilising this entrance would reduce the amount of car parks by four. The easement width of 3.6m is also only suitable for a single lane width (either entry or exit). Staff therefore propose that the car-park design does not include provision to utilise this easement.

The proposed Scheme Design therefore provides for two bi-directional car-park entrances. One on King Street, and one on High Street. A second King Street vehicle entrance is retained for the sole purpose of servicing the rubbish skips.

4.2. Parking Alignment and Angled Parks

Staff have considered the various options of parking configuration to maximise the number of parking spaces available. These options comply with the district plan requirements for stall depths, manoeuvring space, and allow for pedestrian walkways within the car park.

- Before finalizing the scheme design with 90-degree parking, staff explored the 4.2.1. possibility of 45-degree angled parking. However, the analysis indicated that the proposed 90-degree parking configuration would provide the most efficient use of space, resulting in an increase of four additional parking spaces over angle parking options.
- Staff also considered redevelopment of the eastern High Street vehicle entrance 4.2.2. to develop further car parking space. The width of the space available was insufficient to develop additional car parking space. Instead the scheme design proposes to develop this area into a gathering space, cycle parking, and an additional on-road parking space.
- 4.3. Parking and lane Widths
 - 4.3.1. The design of aisle widths adheres to the guidelines set forth in AS/NZ 2890.1:2004 and the proposed District Plan. There are discrepancies between the two documents regarding the specified widths for parking spaces and aisle dimensions. The dimensions of the proposed car parks satisfy the requirements of both standards, aligning with the medium-term parking provisions outlined in the District Plan. Table A is from the proposed district plan. The relevant minimum requirements are highlighted.

User type	Parking angle (degrees)	Manoeuvring area / Aisle width (m)	Stall width (m) 4	Stall depth (m) 5 6 7	
All Users	Parallel	3.3 one way aisle 5.5 two way aisle	2.5	5.0 unobstructed 6.1 obstructed	
Long term 1	30	3.5	2.1	5.0	
	45	4.5	2.4	5.0	
	60	5.6	2.4	5.0	
90		7.0	2.4	5.0	
Medium term ²	30	3.4	2.3	5.0	
	45	4.3	2.5	5.0	
	60	5.3	2.5	5.0	
	90	6.6	2.5	5.0	
Short term 3	30	3.9	2.5	5.0	
	45	4.8	2.6	5.0	
	60	5.8	2.6	5.0	
	90	7.0	2.6	5.0	
Accessible	As above	As above	3.6	5.0	

Table 1 – Proposed District Plan Parking Requirements

1. Tenant, employee and commuter parking (generally all-day parking).

 Medium-term town centre parking, sports facilities, entertainment centres, hotels, motels.
Short term town centre parking, shopping centres, supermarkets, hospitals and medical centres, activities involving drop off or collection of children or goods.

4. Stall width shall be increased by 300mm where a parking space abuts a permanent obstruction such as a wall column or other permanent obstruction. Where there is such an obstruction on both sides of a parking space, the minimum stall width shall be increased by 600mm.

5. Stall depth may be reduced by the corresponding vehicle overhang length if a low kerb allows overhang, up to

600mm, but this overhang shall not encroach another parking space, path or landscaping. 6. Parking spaces (other than parallel) immediately adjacent to paths or landscaping shall include wheel stop barriers located at least 600mm from the path or landscaping to avoid or mitigate obstruction of paths or damage to

landscaping by parked vehicles. 7. Different car parking space and manoeuvring area layouts are illustrated in Figure TRAN-5 below.

4.3.2. The minimum width for the proposed car parks is 2.7 meters, which exceeds the District Plan's minimum by 200 millimetres. Additionally, the minimum aisle width has been established at 6.6 meters, complying with the District Plan's specifications for medium-term parking. A comparison between the width within the new High Street Car Park and the widths of other car parks within the Rangiora CBD is shown on table two.

Table 2 - Comparison	between New	309 High S	Street Car F	Park Dimensions	and Other CBD
Car Parks					

#	Location	Car Park Width Minimum (m)	Aisle Width Minimum (m)	Car Park Depth (m)
	309 High Street	2.7	6.6	5.0
1	Artesian Bakery	2.4	8.1	5.0
2	Alfred Street Car Park	2.4	6.1	5.0
3	New World Car Park	2.6	7.0	5.0



Figure 2 - Location of Car Parks shown in Table Two

- 4.3.3. The existing car-park at the rear of the Town Hall will be altered to increase the aisle width. This car park has an existing aisle width of 6.4 meters, which is 200 millimetres below the District Plan's minimum requirement. This will be widened as part of the new project to 7.0m
- 4.4. Accessibility Parks Findings
 - 4.4.1. Council staff have observed (from conversations with the Town Hall Cinemas Operations Manager) that users of the current car park's accessibility spaces frequently walk around the building along King Street to access the Main Entrance on High Street. Although there is a rear entrance from the Town Hall Car Park, it is often overlooked by users. The proposed design aims to relocate the accessibility parking spaces closer to the Main Entrance of the Town Hall on High Street, enhancing convenience for all visitors.

4.5. Lighting

4.5.1. The lighting design is currently in progress and will be subject to approval of the scheme design. According to the proposed plan, eight new light poles will be necessary to comply with the lighting standard AS/NZS 1158. Council staff have engaged Power Jointing Limited to assess the existing light cabling on site, and it has been determined that approximately half of the current cabling can be reused.

- 4.6. There are three options available for the Rangiora Ashley Community Board;
 - i. Approves the Scheme Design and recommend to the Utilities and Roading Committee, and District Planning and Regulation Committee that they approve the recommendations of this report, to allow the project to be progressed to detailed design. This is the recommended option as the proposed Scheme Design takes into account the views of key stakeholders, and makes efficient use of the available space.
 - ii. Declines the recommendations within this report, and recommend to the Utilities and Roading Committee and District Planning and Regulation Committee that they decline the recommendation of this report, and declines the 180-minute parking time restrictions and / or mobility parking changes. This is not the recommended option as the proposed time limit will allow Cinema goers to watch films with a longer run time while using the new car park without being ticketed.
 - iii. Declines the recommendations within this report, and recommend to the Utilities and Roading Committee and District Planning and Regulation Committee that they decline the recommendation of this report and request staff re-design the entry and exit points of the car park to utilise the right of way onto Church Street. This is not the recommended option as although it allows an additional entry or exit point it will result in the reduction of four car parks.
- 4.7. The Management Team has reviewed this report and support the recommendations.

5. <u>COMMUNITY VIEWS</u>

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.

The land was purchased from Te Ngāi Tūāhuriri, and they are aware of the reasons for purchase, and the development of the car park.

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.

Town Hall Cinemas

Council Staff have been in contact with the Town Hall Cinemas who have specifically requested either 180 or 240-minute parking as this allows for cinema goers to enjoy longer films. They are supportive of the layout of the car park. Council Staff considered the 240-minute extended time limit but choose not to recommend it on the basis that it will encourage commuters to use the parking all day while only needing to move their vehicles once. Town Hall Cinemas are supportive of the 180 minute parking on the basis that this is revisited if it becomes an issue for cinema goers in future. There is a potential to issue parking permits to the cinema for longer parking times if required.

Rangiora Borough School

Rangiora Borough School are supportive of the design but have requested that the fencing on the boundary between 309 High Street and the school be a minimum of 2.4 metres high and not have any railings be exposed to discourage children from leaving the school and people from entering the school. This will be included in the detailed design.

321 High Street

The property owner at 321 High Street requested that the existing brick walls of the building which are constructed along the legal boundary remain as they currently are to allow for security. After initially investigating this Council Staff have found that this isn't possible due to the walls being concrete tilt slab with a brick veneer, alternatively the property owner has requested a thicker paling fence to be constructed along the boundary, this is to be incorporated into the detailed design.

Twine Antiques

Council Staff met with the owner of Twine Antiques who was supportive of the car park design.

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.

A News Story has been published on social media following the purchase of the property. A further news story will be published once the demotion of the former Police Station is complete.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. **Financial Implications**

There are financial implications of the decisions sought by this report.

The Engineer's estimate for the physical works is \$315,000.00 and there is sufficient budget available within the Durham Street Land Purchase for Carparking Budget (102382.000.5135) for the recommended option.

The available budget versus the recommended option is summarized in Table 3

Table 3 - Financial Summary

Project Budget (102382.000.5135)	\$1,499,045.00
Project Delivery Fees Demolition	\$44,655.00
Project Delivery Fees Carpark Construction	\$68,680.00
Demolition Estimate	\$245,160.00
Car Park Construction Estimate*	\$315,000.00
Contingency - 20%**	\$112,032.00
Total Remaining Budget	\$713,518.00

Construction Estimate includes allowance for lighting design and installation. * Contingency based on 20% of demolition and car park estimate only**

6.2. Sustainability and Climate Change Impacts

The recommendations in this report do not have sustainability and/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 health and safety risks arising from the adoption/implementation of the recommendations in this report.

The proposed design is completed as per the District Plan to ensure adequate manoeuvring space for vehicles. Furthermore, the design includes provision for pedestrian connectivity from the car park to the Town hall

Contractors engaged for the works will be required to be SiteWise registered and complete a Site Specific Safety Plan prior to commencing works on site.

7. <u>CONTEXT</u>

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.

Environmental

- Our communities are able to access and enjoy natural areas and public spaces. There are wide-ranging opportunities for people to enjoy the outdoors.
- The natural and built environment in which people live is clean, healthy and safe.

<u>Economic</u>

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

<u>Social</u>

• Public spaces are diverse, respond to changing demographics and meet local needs for leisure and recreation.

7.4. Authorising Delegations

The Community Boards are responsible for considering any matters of interest or concern within their ward area and have the delegation to approve the Scheme Design.

The Utilities and Roading Committee have the delegation to approve the addition of a mobility parking space within High Street.

The District Planning and Regulation Committee have the delegation to approve time restrictions within the car park.



PLOT DATE: 31/10/2024 FILE: C:\USERS\DOMINICM\ONEDRIVE - WAIMAKARIRI DISTRICT COUNCIL\PD002108 HIGH STREET CAR PARK\2 - DESIGN\309 HIGH STREET SCHEME DESIGN.DWG

DRAWING CHKD

DESIGNED CHKD

DESIGNED

APPROVED

KS

10/09/2024

GM 30/10/2024 VERTICAL

DM 07/08/2024

SCALE (A3)

DATUM ORIGIN

KS 10/09/2024 HORIZONTAL NZTM GD200

1:325

NZVD 20

DISTRICT COUNCIL

309 HIGH STREET CAR PARK



STREET TREE SMALL PLANTING EXISTING LIGHT POLE NEW LIGHT POLE WHEEL STOP SPEED CUSHION BOLLARD CYCLE STAND

LIGHT POLE TO BE RELOCATED AWAY FROM NEW AISLE TOWARDS TOWN HALL

to to to to to to.

REMOVE EXISTING LINE MARKING AND REMARK AS SHOWN

> ENTRANCE AND EXIT ON TO KING STREET

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EXISTING BRICK WALL AND LINE MARKING TO BE REMOVED. PARKS TO BE SHIFTED SOUTH BY 600mm AND REMARKED WITH 2.8m WIDE PARKING SPACES

RUBBISH SKIP TO BE RELOCATED TO ALLOW TRUCK TO ACCESS FROM KING STREET, LARGE RIGID TRUCK SHOWN

SHEET TITLE

SCHEME DESIGN

EXIT

FOR APPROVAL DRAWING 4487 SHEET REVISION



REV	REVISION DETAILS	DRN	CHK	APP	DATE	SURVEYED	GP	10/10/2024	PROJECT No	PD002108	
Α	SCHEME DESIGN	DM	KS	GM	10/09/2024	DRAWN	DM	09/09/2024	CON No	CON202108	
						DRAWING CHKD	KS	10/09/2024	SCALE (A3)	1:325	
						DESIGNED	DM	07/08/2024	DATUM ORIGI	DATUM ORIGIN	
						DESIGNED CHKD	KS	10/09/2024	HORIZONTAL	NZTM GD2000	
						APPROVED	GM	30/10/2024	VERTICAL	NZVD 2016	



309 HIGH STREET CAR PARK

PLOT DATE: 31/10/2024 FILE: C:\USERS\DOMINICM\ONEDRIVE - WAIMAKARIRI DISTRICT COUNCIL/PD002108 HIGH STREET CAR PARK\2 - DESIGN\309 HIGH STREET SCHEME DESIGN.DWG

LEGEND

FOOTPATH KERB AND CHANNEL GARDEN BED STREET TREE SMALL PLANTING EXISTING LIGHT POLE NEW LIGHT POLE WHEEL STOP SPEED CUSHION BOLLARD CYCLE STAND

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SHEET TITLE



TRACKING CURVES



REV	REVISION DETAILS	DRN	CHK	APP	DATE	SURVEYED	GP	10/10/2024	PROJECT No	PD002108	
Α	SCHEME DESIGN	DM	KS	GM	10/09/2024	DRAWN	DM	09/09/2024	CON No	CON202108	
						DRAWING CHKD	KS	10/09/2024	SCALE (A3)	1:325	
						DESIGNED	DM	07/08/2024	DATUM ORIGIN		
						DESIGNED CHKD	KS	10/09/2024	HORIZONTAL	NZTM GD2000	
						APPROVED	GM	30/10/2024	VERTICAL	NZVD 2016	



309 HIGH STREET CAR PARK

PLOT DATE: 31/10/2024 FILE: C:\USERS\DOMINICM\ONEDRIVE - WAIMAKARIRI DISTRICT COUNCIL\PD002108 HIGH STREET CAR PARK\2 - DESIGN\309 HIGH STREET SCHEME DESIGN.DWG

LEGEND

FOOTPATH KERB AND CHANNEL GARDEN BED STREET TREE SMALL PLANTING EXISTING LIGHT POLE NEW LIGHT POLE WHEEL STOP SPEED CUSHION BOLLARD CYCLE STAND

P

EXIT

KING

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SHEET TITLE

FOR APPROVAL NOT FOR CONSTRUCTION RAWING 4487 REVISION SHEET 3

SIGNAGE

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	CON202372-02 / 240912156263
REPORT TO:	RANGIORA-ASHLEY COMMUNITY BOARD
DATE OF MEETING:	13 November 2024
AUTHOR(S):	Srinath Srinivasan – Project Engineer (PDU Civil) Joanne McBride – Roading and Transportation Manager
SUBJECT:	East Belt New Footpath - Approval to Install No Stopping Restrictions and Approval for Small Portions of Hedge Removal at MainPower Oval
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager Chief Executive

1. <u>SUMMARY</u>

- 1.1 This report seeks a recommendation from the Rangiora-Ashley Community Board to the Utilities and Roading Committee for providing the following items associated with New Footpath Construction on East Belt, Rangiora.
 - 1.1.1 To install no-stopping restrictions outside 164 East Belt, Rangiora.
 - 1.1.2 To remove small portions of Hedge at MainPower Oval along East Belt to allow the construction of a 1.5m Wide Raised Gritted Footpath.
- 1.2 The new footpath is to be installed on the eastern side of East Belt, between No. 160, and Coldstream Road, and the scheme design of this path has previously been approved by the Utilities and Roading Committee in September 2023.
- 1.3 The project includes a section of kerb and channel outside No. 154 which is to be funded from two sources (the new Footpath Programme Budget and the Subdivision Contributions budget). A contribution has previously been taken as part of subdivision consent RC065457.
- 1.4 The road width of East Belt at No. 164 East Belt current narrows to 6.0m, where the onstreet parking demand no longer exists. There is currently no formalised on-street parking in this area. There is adequate width between the property boundary and the road carriageway to install the proposed footpath, however parking cannot be accommodated in this area, and as such No Stopping is required to ensure vehi8cles do not park in this location.
- 1.5 The road corridor (alongside MainPower Oval Stadium) is too narrow to accommodate a footpath and maintain separation from the road and adjacent drainage swale. Therefore, the path at this location is to be constructed within the property of the MainPower Oval and requires portions of the existing hedge to be removed.
- 1.6 Hedge removal and working beneath the established trees within MainPower oval has been discussed with both the Councils Greenspace Team, and representatives of Canterbury Country Cricket.

Attachments:

- i. East Belt New Footpath No Stopping Line Extent and Hedge Removal Extents (Report to RACB (TRIM No. 240913156962)
- ii. Asplundh Assessment and Confirmation (TRIM No. 241029186922)

2. <u>RECOMMENDATION</u>

THAT the Rangiora Ashley Community Board:

(a) **Receives** report No. 240912156263.

AND

THAT the Rangiora-Ashley Community Board recommends:

THAT the Utilities and Roading Committee:

- (a) **Approves** the installation of 64.50m no-stopping restrictions outside 164 East Belt, Rangiora.
- (b) **Approves** the partial removal of the hedge along the boundary of MainPower Oval, at the locations shown in Trim No. 240913156962.
- (c) **Notes** that the partial removal of the hedge is required to allow for the installation of the proposed footpath behind the buildings at MainPower Oval.
- (d) **Notes** that where the hedge is to be removed, bollards will be installed to prevent vehicle access into MainPower Oval.
- (e) **Notes** that the installation of the parking restrictions outside No. 164 East Belt is the result of the narrow road width in this portion of East Belt, where there is insufficient width to accommodate on-road parking.
- (f) **Notes** that the Greenspaces Team have been involved in the development of the alignment through Mainpower Oval and are supportive of the partial removal of the hedge as required.

3. BACKGROUND

- 3.1 The programme for new footpaths was developed in conjunction with the former Transport Choices programme. The programme including scheme designs, was approved within Report No. 230829133357.
- 3.2 The report was presented on 19th September 2023 at the Utilities and Roading Committee meeting and indicated the likelihood for the requirement of No-Stopping lines at East Belt.
- 3.3 When the programme had its funding withdrawn, a Council Workshop indicated that two projects remained high priority. These sites were:
 - i. Lees Road (southern side). Williams Street to Bayliss Drive
 - ii. East Belt (eastern side). Coldstream Road to existing footpath
- 3.4 Staff have since proceeded with the detailed design of these sites and for the East Belt site have identified that the two aspects (installation of no stopping and hedge removal) require Board approvals to proceed.
- 3.5 Staff have met with representatives from both Greenspace, and Canterbury Country Cricket to discuss the proposed path alignment.
- 3.6 Greenspace raised concerns with the path being within the drip zone of the trees. To mitigate these concerns, the footpath is designed so that no excavation would be required during construction, by constructing the footpath above the existing surface. There are also

concerns regarding the tree health as a result of construction processes. Hence an assessment was carried out by Asplundh. A confirmation was received that the works as per the proposed methodology and in accordance with industry best practice can be completed without being detrimental to tree health and longevity.

- 3.7 Canterbury Country Cricket raised no concerns with the proposal and was supportive of removing the trees from behind the building. However, with the removal of the hedge, these trees do not require removal.
- 3.8 Removal of the hedge from behind the building will ensure inter-visibility between the path and the road for this portion of the proposed footpath that would otherwise be unsafe from a Crime Prevention Through Environmental Design (CPTED) perspective.

4. ISSUES AND OPTIONS

- 4.1. The Board have the following options available to them:
 - 4.1.1. Option One:

Approve the recommendations of this report and authorise staff to proceed with the tendering of the physical works required to complete the footpath network on East Belt to connect to Coldstream Road. This option requires the installation of 64.50m of no-stopping to be marked on the pavement outside No. 164 East Belt, and also requires a portion of the hedge outside MainPower Oval to be removed and replaced with timber bollards. This is the <u>recommended option</u>.

4.1.2. Option Two

Decline the recommendations of this report and instruct staff to maintain the status quo for both the on-street parking, and the hedge. To achieve this, the road alignment will require significant realignment to relocate the carriageway to the western side of the road corridor. To ensure adequate safety for the footpath, the kerb and channel would also need to be extended along the full length of East Belt to Coldstream Road to address the drainage impacts of locating the footpath immediately against the existing edge of seal. This is <u>not</u> the recommended option as there is significant additional costs associated with option.

- 4.2. There are not implications on community wellbeing by the issues and options that are the subject matter of this report.
- 4.3. The Management Team has reviewed this report and support the recommendations.

5. <u>COMMUNITY VIEWS</u>

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 and Te Ngāi Tūāhuriri are generally supportive of the provision of footpaths in the district.

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.

Staff have discussed the proposal with Canterbury Country Cricket, and their views have been included within Section 3 of this report.

All other impacted residents, and stakeholders including Rangiora High School have been informed of the works via a Project Information notice and no concerns were raised as a response.

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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 wider community is likely to benefit from the improved footpath network because of these works. This is particularly the case for the East Belt footpath which has a high demand for recreations facilities, and this footpath link is currently a significant deficiency in the wider pedestrian network in this area. This deficiency has resulted in a number of service requests seeking a new path in this area.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. **Financial Implications**

There are not financial implications of the decisions sought by this report.

The financial implications of the installation of no-stopping lines and hedge removal is included within the project costs and associated budget.

The Project Estimate, including professional fees is \$190,157.00

The available budget is shown within the table below:

PJ Code	Description	Project Budget
PJ 100361.000.5133	Council Performed Works - Allocation to East Belt Kerb and Channel (in conjunction with new footpath)	\$60,000
PJ 100746.000.5133	New Footpaths*	\$155,000
TOTAL		\$215,000

*The New Footpath Budget of \$155,000 is the allocation to East Belt within PJ 100746.000.5133. The overall New Footpath Budget is \$364,000, with balance assigned to the proposed Lees Road footpath.

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

By providing safe pedestrian connections, this encourages active modes (i.e. walking) between the High School and sporting venues, reducing dependency on vehicles and parking demand at the venues.

6.3. Risk Management

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

6.4. Health and Safety

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

Removal of the hedge is required to ensure that the proposed footpath has inter-visibility with the road for the portion immediate behind the existing building as this portion of the path would otherwise be confined between a hedge and building.

Removal of the on-road parking will ensure that the footpath remains unobstructed for use until the road width is sufficiently wide enough to accommodate parked vehicles as per the Code of Practice.

7. <u>CONTEXT</u>

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...

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

Environmental:

...that values and restores our environment...

- 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.

Economic:

...and is supported by a resilient and innovative economy.

• 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 have the delegated authority to recommend the installation of no-stopping restrictions on roads within its ward area.

The Utilities and Roading Committee is responsible for roading and transportation activities, including road safety, multimodal transportation, and traffic controls.



REV	REVISION DETAILS	DRN	CHK	APP	DATE	SURVEYED	ES	13/12/2023	PROJECT No	PD001967
А	SCHEME DESIGN	SS	KS		19/09/2023	DRAWN	SS	12/07/2023	CON No	CON202372
В	TENDER ISSUE	SS			21/11/2023	DRAWING CHKD	KS	19/09/2023	SCALE (A3)	1:500
						DESIGNED	SS	21/11/2023	DATUM ORIGIN	
						DESIGNED CHKD	KS	03/05/2024	HORIZONTAL	NZTM GD2000
						APPROVED	JM	//2020	VERTICAL	NZVD 2016





REV	REVISION DETAILS	DRN	CHK	APP	DATE	SURVEYED	ES	13/12/2023	PROJECT No	PD001967
Α	SCHEME DESIGN	SS	KS		19/09/2023	DRAWN	SS	12/7/2023	CON No	CON202372
В	TENDER ISSUE	SS			21/11/2023	DRAWING CHKD	KS	19/09/2023	SCALE (A3)	1:250
						DESIGNED	SS	15/09/2023	DATUM ORIGI	N
						DESIGNED CHKD	KS	03/05/2024	HORIZONTAL	NZTM GD2000
						APPROVED	JM	//2020	VERTICAL	NZVD 2016
PLOT DA BELT NE	PLOT DATE: 17/09/2024 FILE: S\PDUIPDU JOBSIPD001900-1999/PD001967 - TRANSPORT CHOICES (NEW FOOTPATH PROGRAMME)/2 - DESIGN\TRANSPORT CHOICES - NEW FOOTPATH\TENDER DRAWINGSICAD\EAST BELT NEW FOOTPATH - NO STOPPING LINES & HEDGE REMOVAL EXTENT.DWG									



02

В



REV	REVISION DETAILS	DRN	CHK	APP	DATE	SURVEYED	ES	13/12/2023	PROJECT No	PD001967
А	SCHEME DESIGN	SS	KS		19/09/2023	DRAWN	SS	12/07/2023	CON No	CON202372
В	TENDER ISSUE	SS			15/09/2023	DRAWING CHKD	KS	19/09/2023	SCALE (A3)	1:250
						DESIGNED	SS	21/11/2023	DATUM ORIGI	N
						DESIGNED CHKD	KS	03/05/2024	HORIZONTAL	NZTM GD200
						APPROVED	JM	//2020	VERTICAL	NZVD 201



BELT NEW FOOTPATH - NO STOPPING LINES & HEDGE REMOVAL EXTENT.DWG



REV	REVISION DETAILS	DRN	CHK	APP	DATE		SURVEYED	ES	13/12/2023	PROJECT No	PD001967
A	SCHEME DESIGN	SS	KS		19/09/2023		DRAWN	SS	12/07/2023	CON No	CON202372
В	TENDER ISSUE	SS			21/11/2023		DRAWING CHKD	KS	19/09/2023	SCALE (A3)	1:250
							DESIGNED	SS	22/11/2023	DATUM ORIGI	N
							DESIGNED CHKD	KS	03/05/2024	HORIZONTAL	NZTM GD2000
							APPROVED	JM	//2020	VERTICAL	NZVD 2016
PLOT DA	T DATE: 17/09/2024 FILE: S-VPDU/PDU JORS/PD001900-1999/PD001967 - TRANSPORT CHOICES (NEW FOOTPATH PROGRAMME)/2 - DESIGN/TRANSPORT CHOICES - NEW FOOTPATH/TENDER DRAWINGS/CAD/FAST										

ELT NEW FO

OTPATH - NO STOPPING LINES & HEDGE REMOVAL EXTENT.D



Please see the below comments around your proposed footpath construction at East Belt.

As discussed on site, I believe this work can be completed without being detrimental to tree health amd longevity provided it is completed in accordance with industry best practice.

This is based on the limited area of roots which are to be affected (2m strip) inside the TPZ and your intention to build up the ground with crushed material rather than excavating down to good ground and constructing a sealed footpath which could cause significant root damage.

You will however need to ensure the root zone outside of the immediate footpath area is protected from damage to the extent of the TPZ.

I have provided some basic conditions below which your contractor should follow to avoid damaging these trees.

If required by WDC to protect their tree assets, I am happy to provide a supervising arborist to mark out the SRZ and oversee / undertake any root pruning. This is becoming common practice and a minimum requirement for many councils.

Conditions:

Provide appropriate tree protection measures to avoid compacting roots and soil outside immediate footpath area.

- Provide appropriate tree protection measures to avoid mechanical damage to trees trunk and canopy.
- No stockpiling of material or plant movements should occur within the TPZ, outside of the proposed footpath area.
- No roots should be severed or disturbed within the SRZ.
- Any roots which are required to be pruned outside the SRZ but within the TPZ are assessed prior by a competent arborist.
- Root pruning is undertaken in accordance with Arboriculture best practice and any exposed roots are protected from damage.
- Timber bollards if to be installed inside the TPZ, should be air or hand excavated to avoid damaging roots.

Please note:

- The Tree Protection Zone (TPZ) which is a circle taken from the centre of the trunk with a radius equal to 12 times the diameter of the trunk measured at 1.4m (DBH) above ground level. An incursion of any more than 10% of the area of the TPZ is considered a 'major incursion'.
- The Structural Root Zone (SRZ) which is a circle taken from the centre of the trunk with a radius equal to 3.31 times the diameter of the trunk measured just above the above the root buttress. No works should take place within the SRZ.

Drawing supplied for reference:

Project:

NEW FOOTPATHS CONSTRUCTION

Sheet Title:

EAST BELT - RANGIORA

INSIDE MAINPOWER OVAL LAYOUT

Drawing:

4400

SHEET 3

REVISION B

Supporting information:

Illustration of TPZ



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Illustration of accepted tree protection measures: