Waimakariri District Council

Utilities and Roading Committee

Agenda

Tuesday 21 November 2023
9am

Council Chambers
215 High Street
Rangiora

Members:

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

WAIMAKARIRI
DISTRICT COUNCIL

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The Chairperson and Members
UTILITIES AND ROADING COMMITTEE

A MEETING OF THE UTILITIES AND ROADING COMMITTEE WILL BE HELD IN THE COUNCIL CHAMBER, RANGIORA SERVICE CENTRE, 215 HIGH STREET, RANGIORA ON 21 NOVEMBER 2023 AT 9AM.

Sarah Nichols
GOVERNANCE MANAGER

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

BUSINESS

Page No

1 APOLOGIES

2 CONFLICTS OF INTEREST

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

3 CONFIRMATION OF MINUTES

3.1 Minutes of the meeting of the Utilities and Roading Committee held on Tuesday 17 October 2023.

RECOMMENDATION *11 – 25*

THAT the Utilities and Roading Committee:

(a) **Confirms** the circulated Minutes of the meeting of the Utilities and Roading Committee held on 17 October 2023, as a true and accurate record.

3.2 Notes of the meeting of the Utilities and Roading Committee held on Tuesday 17 October 2023.

RECOMMENDATION *26*

THAT the Utilities and Roading Committee:

(a) **Receives** the circulated workshop notes of the Utilities and Roading Committee held on 17 October 2023.

3.3 Matters arising (From Minutes)

4 DEPUTATION/PRESENTATIONS

4.1 Clarkville Hall Committee

Members from the Clarkville Hall Committee will be in attendance to discuss the no-stopping restrictions on Heywards Road.

5 REPORTS

5.1 Cam River Enhancement Fund proposed projects and update – Sophie Allen (Water Environment Advisor)

RECOMMENDATION *27 – 39*

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 220526085582.

(b) **Approves** the funding of riparian native planting, instream habitat restoration, and fencing of Critical Source Areas located on Tuahiwi Road properties as scoped in this report ($15,000).

(c) **Approves** the funding for the emptying of the sediment trap created by the University of Canterbury on the Middle Brook ($3,000).

(d) **Approves** the bank improvements and native planting works proposed on the South Brook and Cam River, in conjunction with tree removal works under the Central Rural Drainage budget ($11,000).

(e) **Approves** the partial funding to setback an existing fence on the North Brook to fence of Critical Source Areas as part of the North Brook Trail project ($5,000).

(f) **Notes** the results of the Cam River Enhancement Fund projects of emptying existing sediment traps, bank reshaping, and road drainage/dust control improvements carried out in autumn 2022.

(g) **Notes** the Cam River Enhancement Fund fencing policy, attached to this report.

(h) **Circulates** this report to North Canterbury Fish and Game, Department of Conservation – Rangiora Office, the Waimakariri Water Zone Committee, the Te Ngāi Tūāhuriri Rūnanga – WDC meeting, the Rangiora-Ashley and Kaiapoi-Tuahiwi Community Boards, and the Central Rural Drainage Advisory Group, for information.

5.2 Rangiora Stormwater Management Plan 2025-40 Work Programme – Sophie Allen (Water Environment Advisor)

RECOMMENDATION *40 – 66*

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 231005158021.

(b) **Notes** the timeline, work programme, and consultation proposed for the production of a Rangiora Stormwater Management Plan 2025-2040 as required by consent CRC184601 by 1 January 2025.

(c) **Circulates** this report to the Te Ngāi Tūāhuriri Runanga - WDC meeting, Waimakariri Water Zone Committee and Rangiora Ashley Community Board, for information.

5.3 Water Quality and Compliance Annual Report 2022-23 – Caroline Fahey (Water and Wastewater Asset Manager)

RECOMMENDATION *67 – 85*

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 231107178842.

(b) **Notes** that due to the new Drinking Water Assurance Rules (DWQAR) coming into effect in November 2022 and Taumata Arowai's requirement for water suppliers to start reporting on the new DWQAR from 1 January 2023, the assessment was completed in two parts. The first covering the old Drinking Water Standards New Zealand (DWSNZ) for the period 1 July 2022 – 31 December 2022 and the second covering the new Drinking Water Quality Assurance Rules (DWQAR) for the period 1 January 2023 - 30 June 2023.

(c) **Notes** that the new DWQAR are much more stringent than the old Drinking Water Standards New Zealand (DWSNZ) 2005 (Revised 2018). The way in which treatment plant and distribution zone compliance can be gained under the new DWQAR is more challenging than under the now redundant 2018 DWSNZ.

(d) **Notes** that for the compliance period assessed under the new DWQAR, there were a number of non-compliances across all supplies and staff have identified a number of improvement actions that will address the number of non-compliances received. The main non-compliances are being addressed with chlorination now implemented on all urban water supplies, and ongoing UV treatment projects to provide protozoa compliance (to completed by June 2024 for 6 supplies and by June 2025 for remaining 2 supplies). The other non-compliances are technical non-compliances (due to sampling and data capture issues which will require ongoing process improvement and equipment/system upgrades to address).

(e) **Notes** that Council's water supplies will not be fully compliant with the new DWQAR until June 2025 when the last 2 water supplies have UV treatment installed. Even then there is still a risk of technical non-compliances due to data capture issues.

(f) **Notes** that despite the number of non-compliances received across all supplies for the compliance period assessed under the new DWQAR, in terms of a water safety and risk point of view, the risk profile of the water supplies had not changed from the previous compliance periods. The new DWQAR require a much higher level of reporting (with very low threshold for data error) to be completed by the water supplier to demonstrate compliance. There is a risk that this will present a negative public perception and result in reputational damage to the Council as a water supplier.

(g) **Notes** that the new DWQAR were imposed with no lead-in time to allow Waimakariri District Council to implement the UV treatment upgrades and the Council has implemented this programme as soon as practicable.

(h) **Notes** that the water regulator Taumata Arowai have the authority to prosecute Council for non-compliances with the DWQAR under the Water Services Act 2021. However, Council have an agreed timeframe in place with Taumata Arowai for implementation of both chlorination and UV treatment to meet bacteria and protozoa compliance and residual disinfection requirement for drinking water.

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

(j) **Circulates** a copy of this report to Te Ngāi Tūāhuriri Rūnanga, the Te Kōhaka o Tūhaitara Trust and the Waimakariri Water Zone Committee for information.

5.4 July 2023 Flood Recovery Progress Update – Kalley Simpson (Three Waters Manager), Joanne McBride (Roading and Transport Manager) and Daryll Pinfold (Flood Team Leader)

RECOMMENDATION *86 – 103*

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 231109180290.

(b) **Notes** that the three key areas of Cam River / Ruataniwha, Tuahiwi and Waikuku Beach will require more detailed assessment, investigation and community and stakeholder consultation.

(c) **Notes** that all 81 investigations have been triaged, 38 are currently being scoped, 17 are under investigation, nine have works being reviewed for approval and 17 are complete.

(d) **Notes** that of the 126 maintenance actions, 68 are work in progress, 11 have works programmed, and 47 are complete.

(e) **Notes** that the total cost estimate for the flood recovery work is $4.055 million.

(f) **Notes** that the expenditure to date is $1,258,045 and the final forecast expenditure remains at $4.055 million.

(g) **Endorses** the Draft Communication Action Plan for flood recovery communications (Trim 231109180211).

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

5.5 Roading and Transport Activity Update – Gerard Cleary (General Manager Utilities and Roading) and Joanne McBride (Roading and Transport Manager)

RECOMMENDATION *104 – 112*

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 231005158573.

(b) **Notes** the information provided is an outline of activities in the transportation area, over the year from September 2022 to September 2023.

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

6 CORRESPONDENCE

Nil.

7 PORTFOLIO UPDATES

7.1 Roading – Councillor Philip Redmond

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

7.3 Solid Waste– Councillor Robbie Brine

7.4 Transport – Mayor Dan Gordon

8 MATTERS REFERRED FROM COMMUNITY BOARD

8.1 Request approval of No-Stopping Restrictions in Heywards Road – Shane Binder (Senior Transportation Engineer) and Joanne McBride (Roading and Transport Manager)

(Report No. 230614088078 to the Kaiapoi-Tuahiwi Community Board meeting of 16 October 2023).

RECOMMENDATION *113 – 118*

THAT the Utilities and Roading Committee:

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

i. On the east side of Heywards Road from the intersection of Tram Road to the 40km/h school zone signage.

(b) **Notes** that staff had met with Clarkville School and Hall representatives and discussed a series of actions to help mitigate safety concerns outside the school.

(c) **Notes** Clarkville School did not support the installation of no stopping lines until after a lower speed limit was implement on Heywards Road, however due to safety concerns, it was being recommended that installation of the no stopping proceed earlier (after communications on use of the carpark had been sent out via the School Newsletter).

(d) **Develops** a holistic road safety plan for Heywards Road in conjunction with the school which should include speed options, possible parking options using the Clarkville Community Hall parking area and berm edges and any other mechanisms to ensure children's safety when crossing the road. This plan to be brought back to the Kaiapoi-Tuahiwi Community Board for ratification.

(e) **Ensures** that the maintenance of the hedge opposite the school on Heywards Road is maintained appropriately to ensure improved visibility for motorists of the 40km/h school warning sign.

8.2 Marshall Street Changes associated with Southbrook School Travel Plan – Kieran Straw (Civil Project Team Leader) and Don Young (Senior Engineering Advisor)

(Report No. 230516070310 to the Rangiora-Ashley Community Board meeting of 8 November 2023).

RECOMMENDATION *119 – 157*

THAT the Utilities and Roading Committee:

(a) **Approves** the scheme design (Trim: 220817141870).

(b) **Approves** the removal of two on-street car parks on the eastern side of Marshall Street (opposite No. 33) to accommodate the proposed footpath connection.

(c) **Notes** that the scheme design has been developed in conjunction with Southbrook School, as part of the development of the School Travel Plan, and that the proposed layout has been subject to an independent Road Safety Audit.

(d) **Notes** that this project is funded through the "Transport Choices" funding stream, and this requires that all works is complete by June 2024.

8.3 Oxford Stormwater Upgrade – Church Street Reserve – Mark Henwood (Project Engineer) and Jason Recker (Stormwater and Waterways Manager)

(Report No. 231006159247 to the Oxford-Ohoka Community Board meeting of 8 November 2023).

RECOMMENDATION *158 – 194*

THAT the Utilities and Roading Committee:

(a) **Approves** the proposed solution to formalise the secondary flow path in 58 Burnett Street away from residential properties and onto Church Street from Church Street Reserve.

(b) **Notes** that the secondary flow path will be altered to convey stormflows into the Church Street Reserve where it will drain to ground in moderate storm events. In large storm events the stormflow will spillover into Church Street which outlets into the road reserve.

(c) **Notes** that there is a separate project at the A&P Showgrounds, with construction programmed in the 2024/25 financial year. This project will mitigate the flooding issues experience at 189 High Street

(d) **Notes** that this work is funded by budget PJ 101964.000.5123, which has a total budget of $200,000 for 2023/24. Total expected project expenditure including construction and design fees is $157,000.

(e) **Notes** that a portion of the above costs are allocated to design of the A&P Showground improvements ($35,000) and would include a through consultation process with all the A&P Showground stakeholders.

9 MATTERS FOR INFORMATION

9.1 Approval to Install Stop Controls at Various Intersections along Seddon Street, Rangiora – Allie Mace-Cochrane (Transport Engineer) and Shane Binder (Senior Traffic Engineer)

(Report No. 230707102697 to the Rangiora-Ashley Community Board meeting of 11 October 2023).

RECOMMENDATION *195 – 204*

THAT the Utilities and Roading Committee

(a) **Receives** the information in Item 9.1.

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:

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

The general subject of each matter to be considered while the public is excluded, the reason for passing this resolution in relation to each matter, and the specific grounds

under section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution are as follows:

Item No.	Subject	Reason for excluding the public	Grounds for excluding the public.
12.1	Drainage Maintenance Performance	Good reason to withhold exists under section 7	this report remains Public Excluded as it would be likely to unreasonably prejudice the commercial position of the person who supplied or who is the subject of the information, and to enable any local authority holding the information to carry on, without prejudice or disadvantage, negotiations, as per LGOIMA Section 7 (2)(b)(i) and 2(i).
12.2	Report from Management Team Operations 28 August 2023	Good reason to withhold exists under Section 7	To carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations) LGOIMA Section 7(2)(i).
12.3	Report from Management Team Operations 28 August 2023	Good reason to withhold exists under Section 7	To carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations) LGOIMA Section 7(2)(i).
12.4	Report from Management Team Operations 16 October 2023	Good reason to withhold exists under Section 7	To carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations) LGOIMA Section 7(2)(i).
12.5	Report from Management Team Operations 16 October 2023	Good reason to withhold exists under Section 7	To carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations) LGOIMA Section 7(2)(i).
12.6	Report from Management Team Operations 16 October 2023	Good reason to withhold exists under Section 7	To carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations) LGOIMA Section 7(2)(i).
12.7	Report from Kaiapoi-Tuahiwi Community Board Meeting 16 October 2023	Good reason to withhold exists under Section 7	contains intellectual property relating to the mural design and would disclose a “trade secret” and would be likely unreasonably to prejudice the commercial position of the artist, as per LGOIMA Section 7 (2)(b)(i) and (ii).
12.8	Report from Management Team Operations 16 October 2023	Good reason to withhold exists under Section 7	To carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations) LGOIMA Section 7(2)(i).

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 20 February 2024 at 9am.

WAIMAKARIRI DISTRICT COUNCIL

MINUTES OF THE MEETING OF THE UTILITIES AND ROADING COMMITTEE HELD IN THE COUNCIL CHAMBER, RANGIORA SERVICE CENTRE, 215 HIGH STREET, RANGIORA ON TUESDAY 17 OCTOBER 2023 AT 9AM.

PRESENT

Councillors N Mealings (Chairperson) arrived at 9.05am, R Brine, P Redmond, J Ward and P Williams.

IN ATTENDANCE

Mayor D Gordon and Councillor T Fulton.

J Millward (Chief Executive), G Cleary (General Manager Utilities and Roading), J McBride (Roading and Transport Manager), J Recker (Stormwater and Wastewater Manager), K Straw (Civil Project Team Leader), D Young (Senior Engineering Adviser), P Daly (Road Safety Co-ordinator/Journey Planner), S Binder (Senior Transport Engineer), A Mace-Cochrane (Transportation Engineer) and K Rabe (Governance Advisor).

APPOINTMENT OF CHAIRPERSON

Moved: Mayor Gordon Seconded: Councillor Ward

THAT the Utilities and Roading Committee:

(a) **Appoints** Councillor Brine as Acting Chairperson until the Chairperson, Councillor Mealings, arrived.

CARRIED

1 APOLOGIES

Moved: Mayor Gordon Seconded: Councillor Redmond

That an apology for lateness be received and sustained from Councillor Mealings who arrived at 9.05am.

CARRIED

2 CONFLICTS OF INTEREST

There were no conflicts of interest declared.

3 CONFIRMATION OF MINUTES

3.1 Minutes of the meeting of the Utilities and Roading Committee held on Tuesday 19 September 2023.

Moved: Councillor Redmond Seconded: Councillor Ward

THAT the Utilities and Roading Committee:

(a) **Confirms** the circulated Minutes of the meeting of the Utilities and Roading Committee held on 19 September 2023, as a true and accurate record.

CARRIED

3.2 **Matters Arising (From Minutes)**

Councillor Ward suggested that the recently completed pathway at Tuahiwi be sealed to enable children to utilise it to scooter to school. C Cleary responded that either the Council should be requested to approve additional funding or the request should be included as part of Roading's submission to the 2024/34 Long Term Plan.

Councillor Brine vacated the Chair in favour of Councillor Mealings at 9.05am.

4 DEPUTATION/PRESENTATIONS

Nil.

5 REPORTS

5.1 **Approval of Design for Projects 1 and 3 of the Transport Choices Programme (Kaiapoi to Woodend and Woodend to Ravenswood Cycleways –** K Straw (Civil Project Team Leader) and D Young (Senior Engineering Advisor)

K Straw and D Young were in attendance to present the report, which sought approval of the detailed designs for the Kaiapoi to Woodend and the Woodend to Ravenswood cycleways to allow staff to progress the tender phase of the project. Public consultation occurred during September 2023, and 39 formal submissions were received, with 34 in support. K Straw summarised the three changes made to the design due to the feedback received. Staff had also worked extensively with Waka Kōtahi, Ngāi Tūāhuriri and Ready Mix, who were the three main stakeholders.

Councillor Redmond queried the number of car parks that would be lost due to the project and if the car parking would be marked on Ranfurly Street. K Straw replied that two car parks would be lost in Ranfurly Street and that he was uncertain whether the car parks would be formalised. Councillor Remond commented that the plan in the agenda had the car parks marked.

Councillor Redmond also queried whether staff knew there was a gate giving access to the park from Ranfurly Street, which was used for parking at certain times of the year. K Straw undertook to investigate this matter further.

In response to Councillor Redmond's question regarding the ability of trucks and caravans to exit the mill, K Straw replied that the road layout would be altered slightly to enable easy access/exit for trucks and caravans. Councillor Redmon also asked if staff had informed the mill owners/tenants of the planned changes. K Straw confirmed that the mill had been informed of the proposed changes and had not responded to staff directly or through public consultation.

Councillor Williams noted that overall, 20 car parks would be lost and queried the long-term impact of this loss on the roading network. K Straw acknowledged that the loss of on-street parking could impact residents, but, most of these parks were located in front of large properties which had plenty of space for parking on the property and would not currently need on-street parking. However, if these properties were subdivided into smaller units, then no on-street parking may become an issue. He also assured members that the removal of on-street parking was always something that staff gave plenty of consideration to and tried where possible to mitigate any further loss.

In response to Councillor Mealings queried K Straw's replied that the diagrams depicted in the agenda were the final designs that would be put out for tender. K Straw noted that Waka Kōtahi had indicated that they were unlikely to approve the pedestrian island outside St Barnabas's Church, which would then be omitted, however, this would be the only change to the design.

In response to a query regarding the process, D Young replied that the Kaiapoi-Tuahiwi Community Board had been briefed on the design changes before the report was submitted to the Utilities and Roading Committee. Mayor Gordon enquired if the Woodend-Sefton Community Board had also been briefed, and D Young explained that as the changes were in the Kaiapoi-Tuahiwi area, the Woodend-Sefton Community Board had not been briefed, given the tight timeframe for the project to be completed. Mayor Gordon requested that the Woodend-Sefton Community Board be briefed prior to work commencing.

Councillor Fulton queried if staff worked with stakeholders before going out to public consultation or if the stakeholders were only made aware of the details of the project at the same time as the general public. D Young replied that staff worked with stakeholders throughout the planning stage of projects.

Councillor Mealings queried how Ready Mix was allowed to occupy the road reserve, and K Straw noted that there was a historic arrangement in place that Ready Mix had a licence to occupy the area, however, the cycleway would only require a small portion of the road reserve.

Moved: Mayor Gordon Seconded: Councillor Ward

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 230830134485.

(b) **Approves** the detailed design for Project 1, Kaiapoi to Woodend as per Trim No. 230830134489.

(c) **Approves** the detailed design for Project 3, Woodend to Ravenswood as per Trim No. 220830134490.

(d) **Approves** the installation of no stopping lines required as per the Proposed Schedule of No Stopping Restrictions (Trim No. 230222024367 V02), noting that these would be added to the Council's Schedule of Parking Restrictions upon completion.

i.	Ranfurly Street	East	Opposite Sidey Quay

(e) **Notes** the installation of no-stopping lines (below) required as per the Proposed Schedule of No Stopping Restrictions (Trim No. 230222024367 V02), would be approved by Waka Kōtahi and would not be included within the Council's Schedule of Parking Restrictions upon completion.

i.	Main Road (SH1)	West	Main Road frontage of No. 8 Woodglen Drive.
ii.	Main Road (SH1)	East	No. 122 Main Road
iii.	Main Road (SH1)	West	No. 133 Main Road
iv.	Main Road (SH1)	West	Kerb build out at the Church.

(f) **Notes** that the proposed changes to the detailed design would result in the loss of 20 on-road car parking spaces, noting that the on-road car parking spaces on Main Road (SH1) were considered to be "road shoulder" and rarely got used for parking.

(g) **Notes** that feedback from the consultation process had been incorporated into the design where applicable.

(h) **Notes** that the recommendations within this report would require the reclamation of road reserve currently occupied by private residencies along Old North Road, Main North Road (SH1) and that this had been discussed with the relevant property owners.

(i) **Notes** that the deadline for the approval of the detail design and Schedule 2 agreement for funding had been extended to 27 October 2023, and that Waka

Kōtahi had signalled that failure to meet that deadline would result in no funding being available. Also funding for construction was dependent on and would not be released until these had been approved by Waka Kōtahi.

(j) **Notes** that the detailed design drawings were subject to an Independent Road Safety Audit, and that this process had yet to occur. Further minor changes were likely to be required as a result and would be agreed with the General Manager Utilities and Roading.

(k) **Notes** that this project would require an Archaeological Authority to construct, and that staff were currently working through this process.

(l) **Notes** that staff had been working with Ngāi Tūāhuriri in relation to aspects of the alignment that occupy MR873 land and that as a result, the alignment had been updated to ensure the path did not encroach into MR873 land.

(m) **Notes** that staff had been working with Waka Kōtahi in relation to coordination with planned State Highway works and was also seeking the relevant approvals to locate the path in the State Highway Road corridor and that Waka Kōtahi were yet to provide their formal approval of this alignment.

(n) **Notes** that staff would proceed with the preparation of tender drawings, and documents in anticipation of receiving an approval to move to construction from Waka Kōtahi.

(o) **Circulates** this report to the Kaiapoi-Tuahiwi Community Board and the Woodend-Sefton Community Board for their information.

CARRIED

Mayor Gordon acknowledged the work done by staff on this project and the positive feedback from the consultation and drop-in sessions. He noted that cycling and walking had become very popular in recent years, and connecting two of the district's towns would be much appreciated by those who preferred other travel options. He also acknowledged the difficulties faced by staff in some sections of the route.

Councillor Ward congratulated staff on a well-thought-out route which was long overdue and a much-needed connection between the two towns.

Councillor Redmond supported the motion, however, he did have concerns regarding the loss of parking on Ranfurly Street. He noted that the drop-in sessions had been well attended and had generated positive feedback. Councillor Redmond, a member of the Woodend-Sefton Community Board, stated that he had updated the Board at its last meeting of the proposed changes to the route and as this was a very proactive Chairperson and Board. He was confident that the Board was very aware of the changes and any possible impacts to its area.

Councillor Mealings supported the motion and thanked staff for their work with businesses and stakeholders along the proposed route.

5.2 **Eastern Districts Sewer Scheme and Oxford Wastewater Treatment Plan Annual Compliance Monitoring Report 2022-23 –** C Fahey (Water and Wastewater Asset Manager)

G Cleary spoke to the annual report on consent compliance performance of the Eastern District Sewer Scheme (EDSS) and the Oxford Sewer Scheme. Full compliance had been achieved for the EDSS. The Oxford Scheme did not require an annual compliance report, however, a report was prepared as good practice. Full compliance had not been achieved for the Oxford Scheme due to the lack of monitoring data to clearly demonstrate the depth limit for effluent application due to irrigator two being damaged during a strong wind event

in 2021. However, the system should receive an upgrade, which should fix monitoring issues in the future.

Councillor Fulton queried what was meant by 'depth limit', and G Cleary explained that there was a limit to the depth that effluence was allowed to penetrate when sprayed on paddocks. Councillor Fulton further questioned if the Council utilised expert irrigation contractors or if this was managed in-house. G Cleary noted that this report concerned the monitoring and obtaining good, reliable, continuous data but acknowledged that irrigation technology and expertise would help to achieve compliance with irrigation of effluence.

Councillor Williams queried if it was intended to have generators or inverters on-site to ensure data collection would not be impacted during power outages.

G Cleary was unable to answer the question, however, he assured members that staff were working on solutions to the issue.

Moved: Mayor Gordon Seconded: Councillor Williams

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 231003156382.

(b) **Notes** that full compliance was achieved for all of the Eastern District Sewer Scheme (EDSS) Ocean Outfall consent conditions during the 2022-2023 monitoring period.

(c) **Notes** that the Eastern Districts Sewer Scheme – Annual Compliance Monitoring Report 2022-2023 was currently being reviewed by Environment Canterbury.

(d) **Notes** that although not required, the Oxford Sewer Scheme - Annual Monitoring Report 2022-2023 was provided to Environment Canterbury as good practice.

(e) **Notes** that the Oxford Sewer Scheme did not achieve full compliance for the 2022-23 monitoring period. There were two reasons why the scheme did not achieve full compliance, one was due to lack of monitoring data to clearly demonstrate that the depth limit for effluent application at the irrigation field had been achieved, and the other was due to the exceedance of consent limit for faecal coliform level for two effluent samples taken.

(f) **Notes** that staff were working on getting Irrigator Two (western irrigator) connected to SCADA and installing additional flow monitoring equipment at the Oxford Irrigator site which would improve monitoring data collection to demonstrate compliance with the depth limit for effluent application at the irrigation field. Once this work was complete, the scheme was expected to be fully compliant.

(g) **Notes** that UV equipment at the treatment plant had been replaced and operational procedures were being improved to address the faecal coliform limit exceedance.

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

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

CARRIED

5.3 **July 2023 Flood Recover Progress Update –** J Recker (Stormwater and Wastewater Manager), J McBride (Roading and Transport Manager) and D Pinfold (Flood Team Lead)

J Recker and J McBride were in attendance to speak to the report, which provided a progress update on the July 2023 flood recovery work.

Councillor Mealings noted she was aware of the meeting with residents from Washington Place, however, she queried when the other meetings at Bramleys Road, Threlkelds Road and Tram Road were held. J Recker reported that the meetings were held during the last two months and were not planned. Staff had agreed to meet residents as they had the time when the residents called.

N Mealings also queried if staff were reviewing options for the Mandeville sewer, as she believed there was a simple fix for this issue.

Councillor Fulton noted that staff had drone footage of the areas flooded and enquired if this would be made available to the residents to identify any pinch points in the drainage system. J Recker stated that staff were still investigating, however, once staff had finished, they would be happy for residents to share this resource. G Cleary noted that the map developed by staff over the years would be more useful to residents than the drone footage.

Moved: Councillor Williams Seconded: Councillor Mealings

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 231005157963.

(b) **Notes** that works on the three key areas of Cam River / Ruataniwha, Tuahiwi and Waikuku Beach had commenced and would require more detailed assessment, investigation and community and stakeholder consultation.

(c) **Notes** that all 80 investigations have been triaged, 40 were currently being scoped, 32 were under investigation, two had works being reviewed for approval, five had works programmed, and one was completed.

(d) **Notes** that of the 126 maintenance actions 22 were yet to start, 95 had been started and work was in progress, eight had been programmed, and one had been completed.

(e) **Notes** that the total cost estimate for the flood recovery work was $4.055 million.

(f) **Notes** that future progress update reports to the Utilities and Roading Committee would provide an update on the actual and forecast expenditure versus the approved budget.

(g) **Notes** that a communications strategy document would be presented to the next Utilities and Roading Committee meeting for endorsement.

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

CARRIED

Councillor Williams noted that this was a challenging time with recovery works being done continuously due to the almost constant weather events over the last three to four years.

Councillor Mealings concurred and noted that, hopefully, the proposed work would be well underway or completed before any further weather events occurred.

5.4 **Cam River / Ruataniwha Report –** J Recker (Stormwater and Wastewater Manager), K Simpson (Three Waters Manager)

J Recker was in attendance and provided an overview of the maintenance and immediate works identified for the Cam River/Ruataniwha, in Environment Canterbury's (ECan) Scheme Plan briefed the Committee on the development of stormwater management within the river's catchment since 2000.

Councillor Redmond noted the findings of the National Institute of Water and Atmospheric Research (NIWA) that one-in-fifty-year events would become more of a one-in-ten-year event and queried if the modelling of these should be changed to reflect the change in weather patterns. J Recker agreed that the modelling should be revisited.

Councillor Mealings concurred, noting the increase in serious weather events. G Cleary replied that every event was different and impacted different areas and depended on various factors such as the intensity of the rain, the duration, the catchment area and how saturated the soil was at the time of the event. There was also an indication of an increase in wind events, which would have different impacts on the district. Councillor Mealings noted that it was important that the modelling was correct to enable confidence in the future development of the district.

Councillor Williams questioned whether there was sufficient monitoring of the work contracted for maintenance of important drainage and infrastructure and, if it was found that there had been a failure, what steps could be taken. G Cleary responded that this was a matter under consideration for the future. Councillor Williams stated he was concerned that the Bellgrove development would put further pressure on the Cam River. G Cleary replied that the Bellgrove development was compliant with all its consents, however, he acknowledged that more stringent criteria may be needed in the future.

P Williams also queried the cost division between the Council and ECan, noting the last time the Cam River's stopbanks were checked was in 1980. With the impact of climate change and increases in river flows, monitoring should be carried out more regularly. He also queried if the Council was getting good value for money with the contractors used by ECan. G Cleary replied that staff always ensured that contractors had the skills necessary. He noted that ECan had more experience dealing with this type of work and would have appropriate contractors to do the required work.

Mayor Gordon agreed with Councillor Williams' concerns regarding the Bellgrove drainage requirements and believed that this topic should be covered by a briefing to the Council. He also noted that Councillor Williams had raised the issue of appropriate monitoring of work and performance of contractors and requested a report on this topic.

Councillor Ward stated that the new developments were not the problem, but rather the lack of clearing of dead trees and rubbish from drainage ditches that caused the flooding and therefore welcomed the suggestion of a report.

Moved: Councillor Redmond Seconded: Councillor Ward

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 231005158212.

(b) **Notes** that there were immediate maintenance works identified and those works had been completed by Council maintenance contractors in early October 2023.

(c) **Notes** that the remaining maintenance works would be undertaken by Environment Canterbury with Council funding the upper section maintenance works above Bramleys Road. Environment Canterbury had advised that this would be undertaken in November / December 2023.

(d) **Notes** that the immediate works were proposed in the vicinity of the Bradleys Road bridge to address a section of low bunding along the Cam River/ Ruataniwha.

(e) **Notes** the funding of $250,000, which was recently approved by the Council (refer TRIM 230921147926) was sufficient to undertake the immediate works along the Cam River/ Ruataniwha.

(f) **Notes** that the Cam River/ Ruataniwha scheme design was being updated by Environment Canterbury, which would consider the impact of development in Rangiora and the potential need to raise the existing stopbank system.

(g) **Notes** that a subsequent report would be submitted to Council upon completion of the Environment Canterbury Scheme Plan that would provide a recommendation on the Council's future strategy for the Cam River/ Ruataniwha.

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

CARRIED

Councillor Redmond stated that ensuring resilience in the district's infrastructure was essential. He also informed the Committee that there was a recommendation to ECan for $2 million to cover work on the Cam River and its stopbanks, and he had suggested that this be funded via loan funding as it would be an intergenerational expense.

Councillor Williams thanked staff for their quick response to this matter.

Councillor Mealings supported the motion and the proposed work.

5.5 **Adoption of Road Safety Action Plan 2023/24 –** P Daly (Road Safety Co-ordinator/Journey Planner) and J McBride (Roading and Transport Manager)

P Daly and J McBride attended and presented the report, which sought the adoption of the Waimakariri Road Safety Action Plan 2023/24.

Councillor Williams queried whether this plan should be put on hold as the new Government had indicated a change of focus to road safety. P Daly replied that this document was intended to respond to changes in policy and that this would be a living document focused primarily on the district.

Moved: Mayor Gordon Seconded: Councillor Redmond

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 230802117283.

(b) **Adopts** the Road Safety Action Plan 2023/24 (Doc 190529076366).

(c) **Circulates** this report to the Community Boards and all stakeholders of the Road Safety Working Group.

(d) **Requests** that staff arrange a workshop to socialise this plan with All Boards.

CARRIED

Mayor Gordon acknowledged the work done by P Daly. He believed it was appropriate to have a living document which sought to protect the people of the district regardless of the label that the Government put on its initiatives.

Councillor Redmond noted that he was the Chair of the Road Safety Working Group, and the members of the Group came from different disciplines and experiences and had all contributed to this document.

5.6 **Rangiora Stormwater Monitoring Report 2021-22 –** S Allen (Water Environment Advisor)

J Recker attended to present the report, which summarised the key findings of the 2021-22 Stormwater Monitoring Programme for Rangiora under the consent CRC184601.

Councillor Mealings noted that the Cam River was mentioned as exempt several times in the recommendations and queried why. J Recker undertook to forward that information to the Committee. In response to a question from Councillor Mealings regarding flush criteria J Recker noted that collecting relevant data for flush testing was only sometimes possible as the events often happened outside of working hours.

Councillor Fulton queried if there were comparisons of water quality in sections of the river that had plantings on the bank to areas that did not. G Cleary replied that it would be difficult to monitor this as the river moved from one area to another and washed contaminants from one area to another. There was also an effect from shading that would need to be considered.

Councillor Ward acknowledged that stock was kept away from waterways to improve and protect water quality, however, she queried what impact the increased birdlife in wetlands had on the waterways. She noted the increase in swans and Canadian Geese, which would also contaminate waterways with their effluence, which would be slightly different from other stock. J Recker could not answer the question and would get S Allen to respond to this query.

Councillor Williams noted new industrial areas being developed and queried how the Council would monitor discharges from these businesses to ensure they would not contaminate waterways. J Recker replied that no monitoring was included in the current plan, however, he would ask for consideration to be given to this matter..

Moved: Councillor Williams Seconded: Councillor Ward

THAT the Utilities and Roading Committee:

(b) **Receives** Report No. 230904136693.

(c) **Notes** that there were exceedances (non-compliances) during wet weather events of dissolved zinc, dissolved copper, dissolved reactive phosphorus, total suspended solids (one site only) and E. coli in some Rangiora waterways, in particular the Middle Brook and North Brook.

(d) **Notes** that follow-up investigations were recommended in this report, which would be carried out by Three Waters staff under existing budgets.

(e) **Notes** drafting was underway of a Rangiora Stormwater Management Plan 2025-2040, which would incorporate these monitoring results and other information.

(f) **Circulates** this report to the Waimakariri Water Zone Committee and the Rangiora-Ashley Community Board.

CARRIED

Councillor Williams was supportive of the team's proactiveness.

Councillor Ward thanked staff for their work.

6 CORRESPONDENCE

Nil.

7 PORTFOLIO UPDATES

7.1 Roading – Councillor Philip Redmond

Issues / focus for staff

- We are heading into construction season, and planning was underway for works due to start shortly.
- Extreme wind event on 14 and 15 October 2023 had brought down a significant number of trees. The Whiterock area had been particularly badly hit with roads closed and power lines down.
- Staff were working with WSP on the Lees Valley Road slip repair options to be able to progress these works quickly.
- Island Road / Mounseys Stream – Scour downstream of the bridge had been identified. Staff currently working with WSP on options for repair. Restrictions are to be put in place until repairs can be completed.

Funding applications to Waka Kotahi

- Application for resilience funding for Lees Valley Road was submitted to Waka Kotahi but not approved. This was for the new Resilience Fund that Government announced in August 2023. Staff had been advised all funding went to State Highways.
- Road to Zero funding for the construction of the traffic signals at Island Road / Ohoka Road intersection as previously reported had been formally approved by Waka Kotahi.
- Applications were likely to be submitted for the Wind Event 14 and 15 October 2023.

Capital

- Detailed design for River Road Upgrade and Island Road / Ohoka Road Intersection were being completed and contracts prepared to go out to tender.
- Transport Choices detailed design was continuing.
- Townsend Road culvert investigation / prelim design consideration was continuing.
- Kerb and channel renewals were currently in design.

Operational

- The spring spraying round was underway and grass growth had accelerated.
- The Council had a busy time ahead with repairs and resurfacing on some of the busy roads. Public communication would go out ahead of the works.
  - Asphalt resurfacing completed on Williams Street (Courtenay Drive to Vickery Street) and West Belt (Oxford Road to Milesbrook Close).
  - Next asphalt surfacing site was Ashley Street between Coldstream Road and Rickman Place. Likely to be undertaken during the day with a one lane detour for northbound traffic.
  - Percival Street / Victoria Street / Northbrook Road bend near the Lillybrook shops – Night works Sunday 29 October to carry out patch repairs.
  - Ohoka Road and High Street – Night works 30 October to carry out patch repairs.
  - King Street / Queen Street roundabout – Night works 31 October to carry out repairs.

- Pavement rehabilitation work was planned for Lower Sefton Road to start on 24 October (after Labour weekend). A detour would be in place via Harleston Road and Broad Road.
- Chipsealing of reseal sites will start at the end of the month, with the first sites being Blackwell Crescent, Bracebridge Street, Woodend Road, West Belt, George Street and Dunlops Road.

Upcoming Works by Other

- MainPower planned closures of Cass Street as was reported last month was delayed and was now planned to start 26 October 2023. A detour would be in place.
- Huntingdon Drive was closed between Salisbury Avenue and Belmont Avenue until approximately 27 October 2023 to allow for the new road connection through to Charles Upham Drive to be constructed.
- Hicklands Road would be closed daily from the 18 to 25 October 2023 west of Easterbrook Road, to allow ECan to carry out stop bank works.

Road Safety

- The Kickstart Motorcycle Safety event was held in Woodend on the 23 September 2023.
- Staff were working with the SADD (Students Against Dangerous Driving) coordinator and would this week present to the school assembly at Oxford Area School on the topic of the Drive programme. We were also working with them to establish at SADD group at Kaiapoi High School.
- Since 1 July 2023 there had been 193 students in 7 schools receive Cycle Sense training. Those schools included Sefton School, Loburn School, Woodend School, Fernside School, Rangiora New Life School, Rangiora Borough School and West Eyreton School.

Community

- Consultation had closed for the Transport Choices Walking and Cycling projects. A report on this subject would go to the Rangiora-Ashley Community Board on the outcome this month and would be considered by Council in November.
- The Road Reserve Management Policy consultation had closed and the Hearing was planned for the 20 October.

7.2 **Drainage, Stockwater and Three Waters (Drinking Water, Sewer and Stormwater) – Councillor Paul Williams**

Wastewater

- Meeting was planned with the residents adjacent to the Woodend WWTP, to discuss midges.
- The Council was about to commence engagement with the Runanga via MKL on the Oxford WWTP upgrade project.

Drainage

- Initial round of drainage and water race advisory groups was underway.
- The all groups drainage meeting was held last week and there was a very interesting and challenging presentation on extreme flooding in NZ and around the world.
- McIntosh Drain Pump Station opening is planned for Thursday 26 October.

7.3 **Solid Waste– Councillor Robbie Brine**

Wind Event

- Southbrook RRP was closed from around noon on Saturday 14 October 2023 owing to the high winds and hazardous working conditions. Staff reported some trees and branches down, they arrived at the site earlier than usual the next day to clean up. Remaining trees did not impact on operations, so site was open at 8:30am as usual. Trees that fell onto the site have been cut up; A tree fell across the fence from the north, and the southern fence was also damaged by neighbouring tree's roots when the tree fell into their paddock. We will work with the owners to get the damaged fences repaired.
- Oxford transfer station was able to open as usual at midday on Sunday – K Waghorn checked site in morning to ensure there no trees across the driveway, and power was restored before 12.00 when the site was due to open.
- There was a Solid and Hazardous Waste working party meeting scheduled for 2pm on Friday 20 October. The reports being discussed at this meeting would be referred straight to the Council.
- School recycling bins sort and weigh audits were continuing – some had seen great improvement since their last audit and report, others had not improved and staff were going through a process to engage with these schools to have Eco Educate come and work with them to set up systems to improve their recycling processes.
- One of the stormwater improvements projects at Southbrook had started during the week, with contractors working behind the greenwaste disposal area. Staff were planning to install a slot drain along the front of the drop-off area once the pipes were in, this would reduce the amount of stormwater going into the wastewater system from the access road. Work will be done in two parts to try and minimise inconvenience for site users.

7.4 **Transport – Mayor Dan Gordon**

There were no matter raised.

8 MATTERS REFERRED FROM KAIAPOI-TUAHIWI COMMUNITY BOARD

8.1 **Approval to Install No-stopping Restrictions Along the Frontage of No. 20 Main Street, Oxford** – A Mace-Cochrane (Transportation Engineer) and S Binder (Senior Transportation Engineer)

(Report No. 230905137573 to the Oxford-Ohoka Community Board meeting of 4 October 2023).

There were no questions from Councillor.

Moved: Councillor Ward Seconded: Councillor Redmond

THAT the Oxford-Ohoka Community Board recommends:

THAT the Utilities and Roading Committee:

(a) **Approves** the installation of no-stopping restrictions at the following location:

i. On the north side of Main Street between the two vehicle crossings of No. 20 Main Street (approximately 4.0 metres long).

CARRIED

8.2 **Approval to Install No-stopping Restrictions Along the Frontage of No. 20 Main Street, Oxford** – A Mace-Cochrane (Transportation Engineer) and S Binder (Senior Transportation Engineer)

(Report No. 230718108142 to the Rangiora-Ashley Community Board meeting of 11 October 2023).

There were no questions from Councillor.

Moves: Councillor Brine Seconded: Councillor Ward

THAT the Rangiora-Ashley Community Board recommends:

THAT the Utilities and Roading Committee:

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

ii. On the north side of High Street between the vehicle crossings of 2A Ayers Street and 364B High Street.

iii. Charles Upham Drive at the following locations:

(1) 17 metres north of the Salisbury Avenue intersection on the west side.

(2) 28 metres north and 14 metres south of the Valour Drive intersection on the east side.

(3) Between Salisbury Avenue and Chatsworth Avenue intersections on the west side.

(4) Between Elm Drive and Chatsworth Avenue intersections on the east side.

(5) 30 metres south of the Chatsworth Avenue intersection on the east side.

CARRIED

9 MATTERS FOR INFORMATION

9.1 **Approval to Install Stop Controls at Various Intersections along Seddon Street, Rangiora** – A Mace-Cochrane (Transport Engineer) and S Binder (Senior Traffic Engineer)

(Report No. 230707102697 to the Rangiora-Ashley Community Board meeting of 11 October 2023).

There were no questions from Councillor.

Moves: Councillor Ward Seconded: Councillor Mealings

THAT the Utilities and Roading Committee

(a) **Receives** the information in Item 9.1.

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 was moved:

Moved: Councillor Ward Seconded: Councillor Brine

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

Item 12.1 Report from Management Team meeting of 2 October 2023

Item 12.2 Report from Management Team meeting of 2 October 2023

The general subject of each matter to be considered while the public was 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 were as follows:

Meeting Item No. and subject	Reason for excluding the public	Grounds for excluding the public
12.1 Report from Management Team meeting of 2 October 2023	Good reason to withhold exists under section 7	To carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations) (s 7(2)(i)).
12.2 Report from Management Team meeting of 2 October 2023	Good reason to withhold exists under section 7	To carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations) (s 7(2)(i)).

CARRIED

CLOSED MEETING

The public excluded portion of the meeting commenced at 10.52am and concluded at 10.54am.

OPEN MEETING

Moved: Councillor Redmond Seconded: Councillor Ward

THAT open meeting resumes and the business discussed with the public excluded remains public excluded.

CARRIED

NEXT MEETING

The next meeting of the Utilities and Roading Committee will be held on Tuesday 21 November 2023 at 9am.

THERE BEING NO FURTHER BUSINESS THE MEETING CONCLUDED AT 10.54AM.

CONFIRMED

N Mealings
Chairperson

Date

NOTES OF A WORKSHOP OF THE UTILITIES AND ROADING COMMITTEE HELD IN THE COUNCIL CHAMBERS, HIGH STREET, RANGIORA ON TUESDAY, 17 OCTOBER 2023, COMMENCING AT 11AM.

PRESENT

Councillors R Brine, T Fulton, N Mealings, J Ward and P Williams.

IN ATTENDANCE

G Cleary (General Manager Utilities and Roading), and K Rabe (Governance Adviser).

APOLOGIES

Mayor Gordon and Councillor Redmond.

1. Public Consultation Results for the Mandeville Resurgence Channel Project

Presenter(s) Jason Recker (Stormwater and Wastewater Manager)
Trim Ref: 231019166852

Key points:

- A large proportion of the cost would be for traffic management in Option C.
- Sections of Option A would need to be upgraded even if Option B or C were chosen.
- Suggestion that Stage 2 be done and Stage 1 left undone.
  You would need both sections however there could be a review on the cost and magnitude of stage 1.
- If water redirected to the Eyre River there would need to be funds to pump the water as the Eyre River was on higher land than the surrounding paddocks.
- Recommend that Option A be done with a report to the Council requesting further funding for a scaled back version of Stage 2.
- Pursuing stage I and 2 is not a viable option. Rather choose the Eyre River diversion and prioritise time and money to meeting with long term farmers and residents to come up with a more feasible option.
- Suggest the T Fulton and staff set up site visits with appropriate residents to get their input on the best way forward.
- Concern that delaying effective mitigation of flooding impact residents.
- This matter to be a further briefing for the Council after meeting with residetns.

There being no further business the workshop concluded at 11.25am.

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	DRA-19 / 220526085582
REPORT TO:	UTILITIES AND ROADING COMMITTEE
DATE OF MEETING:	21 November 2023
AUTHOR(S):	Sophie Allen – Water Environment Advisor
SUBJECT:	Cam River Enhancement Fund proposed projects and update
ENDORSED BY: (for Reports to Council, Committees or Boards)	Department Manager / Chief Executive

1. SUMMARY

1.1 This report summarises future planning and updates for Cam River Enhancement Fund projects, and provides an update on the amount remaining in the fund ($166,000 as of 1 October 2023).

1.2 Projects proposed for summer - autumn 2023-24, and presented for approval in this report include;

a. Riparian native planting, instream habitat restoration, and fencing of Critical Source Areas for three Tuahiwi properties.

b. The emptying of a sediment trap on the Middle Brook created by the University of Canterbury.

c. Partial funding of fencing for the North Brook Trail project, for the areas where moving the fenceline back will fence-off Critical Source Areas from stock.

d. Bank improvement and native planting works on the South Brook and Cam River to support tree removal works under Central Rural Drainage budgets.

1.3 Native planting projects have been designed to allow for continued access for drainage maintenance, such as only planting on one side, or planting of low grasses on one side.

1.4 In Autumn 2022, two sediment traps installed on the Tuahiwi Stream (Waituere) under the Cam River Enhancement Fund were emptied of accumulated silt. Trial use of a sucker truck for emptying of the sediment trap on Tuahiwi Stream (Waituere) at Greens Road was found that it took longer and was less cost-effective than the use of an excavator at the Church Bush Road sediment trap site. However there were some benefits such as no spoil left on the road reserve.

1.5 Argillite was trialled as a gravel road base on Marsh Road and Waikoruru Road beside the Cam River mainstem in autumn 2022 by the Roading team, partially funded by the Cam River Enhancement Fund. The argillite appeared to reduce dust and run-off of sediment fines into the waterway, however was found to have a higher maintenance cost.

1.6 Bank stabilisation works on the North Brook between Boys Road and Marsh Road and the were completed in autumn 2022.

1.7 A Cam River Enhancement Fund fencing policy was approved in January 2022 by the then Chair of the Land and Water Committee, Councillor Sandra Stewart, and the Utilities and Roading Manager, Gerard Cleary with delegated approval from the Land and Water Committee.

Attachments:

i. Cam River Enhancement Fund fencing policy January 2022 (TRIM 220124008290) – updated March 2022

2. RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 220526085582.

(b) **Approves** the funding of riparian native planting, instream habitat restoration, and fencing of Critical Source Areas located on Tuahiwi Road properties as scoped in this report ($15,000).

(c) **Approves** the funding for the emptying of the sediment trap created by the University of Canterbury on the Middle Brook ($3,000).

(d) **Approves** the bank improvements and native planting works proposed on the South Brook and Cam River, in conjunction with tree removal works under the Central Rural Drainage budget ($11,000).

(e) **Approves** the partial funding to setback an existing fence on the North Brook to fence of Critical Source Areas as part of the North Brook Trail project ($5,000).

(f) **Notes** the results of the Cam River Enhancement Fund projects of emptying existing sediment traps, bank reshaping, and road drainage/dust control improvements carried out in autumn 2022.

(g) **Notes** the Cam River Enhancement Fund fencing policy, attached to this report.

(h) **Circulates** this report to North Canterbury Fish and Game, Department of Conservation – Rangiora Office, the Waimakariri Water Zone Committee, at a Te Ngāi Tūāhuriri Rūnanga – WDC meeting, the Rangiora-Ashley and Kaiapoi-Tuahiwi Community Boards, and the Central Rural Drainage Advisory Group.

3. BACKGROUND

3.1. The Cam River Enhancement Fund was established by an Environment Court ruling in July 2001. This ruling required the consent holder (WDC) to provide an amount of $25,000 per year over a five-year period for habitat restoration in the Cam River system. Due to interest accrued on the funds over time, the initial fund amount increased. The purpose of the fund, as noted in the Environment Court decision, was to be used "for habitat restoration in the Cam River system … as agreed between North Canterbury Fish and Game Council and the consent holder in consultation with the Department of Conservation."

3.2. It was on this basis that a Cam River and Tributaries Enhancement Committee was informally set up with Council staff. Given their interest in the Cam River, representatives of Te Ngāi Tūāhuriri Rūnanga, the Cam River Working Party, and Environment Canterbury were also invited to attend.

3.3. Initially landowner applications were accepted for the fund, with some budget allocated to planting and fencing projects. A strategic catchment approach, however, was decided to be undertaken by the Committee. The Committee commissioned a scoping strategy of the

Cam River and its tributaries from Dr Henry Hudson. A final version of this report was delivered in 2017 (TRIM 170410035142[v2]).

3.4. Based on the Dr. Henry Hudson Scoping Strategy, funding was allocated to in-stream engineering projects. Detailed engineering design of elements was completed over the period 2018-20.

3.5. Due to consent conditions, landowner feedback and design concerns, a strategic update was undertaken that was presented to the Land and Water Committee meeting on the 16 November 2021. This strategic review recommended to re-incorporate catchment initiatives, such as fencing of critical source areas, in addition to in-stream works.

4. ISSUES AND OPTIONS

4.1. Proposed works for 2023-24 are shown in Table 1. Works completed in autumn 2022 are shown in Table 2.

Proposed works

Table 1: Proposed works for the Cam River Enhancement Fund 2023-24

Project description	Location (waterway)	Estimated cost (excl GST)	Project manager
Fencing of Critical Source Area (CSA) of the Cam River mainstem (453 Tuahiwi Road) – See Figure 1	Drain connected to the Cam River mainstem	$15/m (2 hot wires for cattle exclusion). 219m on Māori Land (ephemeral ponding area), = $4,000	Water Environment Advisor
Fencing and planting of Waituere / Tuahiwi Stream. (384 Tuahiwi Road) - See Figure 2 3m setback required under the RMA Stock Exclusion (2020) Regulations	Waituere / Tuahiwi Stream	$27/m sheep fence and access gate. Māori-owned land (107m – one-side) = $3,000 Planting of 300 low native plants = $3000	Water Environment Advisor
Planting and in-stream enhancements (boulder and cobble placement) 428 Tuahiwi Road. Low plants on one side for maintenance access. See Figure 3	Waituere / Tuahiwi Stream	Planting (200 plants) – 5m buffer for 26m length (both sides). Māori-owned land = $2000 Boulder and cobble placement = $3,000 estimate	Water Environment Advisor
Middle Brook sediment trap emptying (created by the University of Canterbury).	Middle Brook	Excavator services to be provided by CORDE Ltd (WDC drainage contractor) = $3,000	Land Drainage Engineer
Bank improvements – e.g. rebattering, grass seeding and native planting	South Brook below the Rangiora Wastewater Treatment Plant, Cam	Earthworks to be provided by CORDE Ltd = $5,000 Grass seeding for erosion control= $1000	Land Drainage Engineer / Water Environment Advisor

	River between Marsh Road and South Brook confluence	Native planting = $5000	
North Brook Trail funding between Boys Road and Marsh Road (Stage 1) – Fencing off of Critical Source Areas with at least a 6m setback. Meets the fencing policy - moving back of an existing functional fence.	North Brook	Contribution towards the full fencing cost of the North Brook Trail project= $5,000 estimate	Spark family/ Waimakariri Landcare Trust
		TOTAL $34,000	

4.2. Projects along the Tuahiwi Stream (Waituere) are a focus area for improvements to water quality as prioritised by the Environment Canterbury Stream Walk assessment in 2016 of the Cam River catchment. The proposed fencing projects meet the Cam River Enhancement Fund fencing policy (TRIM 220124008290).

453 Tuahiwi Road

4.3. Hotwire cattle fencing is proposed for an area with recurrent ponding during wetter weather that is likely a Critical Source Area to the Cam River via a farm drain. A power supply is available already at the site. The land is Māori-owned with multiple owners. This fencing project meets the fencing policy for funding.

Figure 1: Fencing (orange line) at property 453 Tuahiwi Road with drainage into the Cam River mainstem, with recurrent ponding on Māori-owned land (219m).

384 Tuahiwi Road

A sheep fence is proposed for a property on the corner of Okaihau Road and Tuahiwi Road used for stock grazing with a 3m setback from the waterway. This property borders the true right of the Waituere/Tuahiwi Stream. A gate is proposed to be able to access the area if required. The true left is already fenced. Low native riparian planting (i.e. such as grasses) are proposed to provide a natural buffer, stream shading and increased habitat for biodiversity. Fencing and planting will take place after drainage works planned in summer 2023-24. The land is Māori-owned. This fencing project meets the fencing policy for funding.

Figure 2: 384 Tuahiwi Road - Orange line indicates sheep fence on the true right side of the waterway The light green area indicates native planting.

428 Tuahiwi Road

4.4. The Tuahiwi Stream (Waituere) banks at this property are not grazed, so there is no requirement for fencing to provide stock exclusion. Native planting is proposed along the 26m of stream on both sides with a buffer width of 5m. The true right will have low plantings that will not exclude drain maintenance access if required. In-stream habitat is proposed to be improved through the installation of cobbles and a few boulders to create a pool-riffle structure if possible with the low stream gradient. There are neighbouring properties where the stream restoration could be extended to in the future, after scheduled drainage maintenance works have been carried out. The land is Māori-owned.

Figure 3: Restoration at 428 Tuahiwi Road. The light green indicates native planting. A few boulders and some cobbles will be added to improve in-stream habitat.

South Brook and Cam River

4.5. Tree removal works under Drainage budgets are scheduled along the South Brook below the Rangiora Wastewater Treatment Plant and on the Cam River from Marsh Road to the South Brook confluence due to tree fall from winds and flood recovery work. Associated bank stability improvements, re-grassing and native planting is proposed from the Cam River Enhancement Fund to prevent erosion, restore stream shading and provide habitat for indigenous biodiversity.

North Brook Trail

4.6. Partial funding of fencing costs for the North Brook Trail is proposed due to the benefits of fencing off critical source areas where currently stock access may be affecting water quality. A report is planned to be presented at the Community and Recreation Committee in December 2023 seeking approval to provide maintenance of an esplanade strip along part of the North Brook, as part of the North Brook Trail project. The release of this budget from the Cam River Enhancement Fund is contingent on approval by this committee for Council to maintain this esplanade strip and the establishment of a riparian strip on the property title for public access. This fencing project meets the fencing policy for funding, due to moving an existing functional fence to create a set-back from the waterway.

Completed works

Table 2: Completed works for the Cam River Enhancement Fund in autumn 2022-23

Project description	**Location (waterway)**	**Cost (excl GST)**	**Project manager**
Greens Road (STS1) and Church Bush Road (STS4) sediment trap emptying.	Waituere (Tuahiwi Stream)	$3,900 for STS1 (Hydrotech cost for a recycler truck and $200 spoil disposal fees) $1,503 for Church Bush Road (STS4). Excavator provided by CORDE	Water Environment Advisor
Argillite roading trial for sediment run-off/dust control on Marsh Road, Waikoruru Road and Camside Road intersections	Cam River main stem	$15,000 (fund contribution to full cost)	Roading Engineer
Bank stabilisation and erosion control works	North Brook between Boys Road and Marsh Road	$3,044 Excavator provided by CORDE	Land Drainage Engineer
		TOTAL $23,447	

Sediment Trap Emptying

4.7. An experimental trial of a sucker truck to suck out sediment was used for the emptying of a Greens Road sediment trap (STS1) on the Waituere (Tuahiwi Stream) in late April- early May 2022 (see Figure 4). This was partly due to the preference to not leave sediment to de-water along the road reserve, as is the case if an excavator was used.

4.8. The sucker truck technique was refined during the trial to have one person in the waterway with a wetsuit directing the suction tube, and a spotter who was operating the truck's suction and watching the person in the water (see Figure 5). The trial successfully removed the bulk of the built-up fine sediment (approximately 0.5m silt depth) from the estimated 28m^2 area of the trap within eight hours of work over two days.

4.9. Tuna (eel) trapping was kindly carried out in the stream reach prior to the works by a rūnanga representative on the Waimakariri Water Zone Committee who lives in Tuahiwi to make sure that the truck did not suck up any tuna during the trial.

Figure 4 – The sucker truck that was used for the Greens Road sediment trap emptying trial

Figure 5 – The manual-handling technique for directing the vacuum suction pipe

4.10. An excavator with a silt bucket was used to empty the Church Bush Road sediment trap in May 2022 (see Figure 6). 31 heaped buckets of silt were removed which were estimated to be about 1.5m^3 each, giving an estimated total of 46.5m^3 of silt removed (wet weight).

Figure 6: Removal of sediment from the Church Bush Road sediment trap on the Tuahiwi Stream / Waituere with a silt bucket

4.11. A contrast of the recycler truck and excavator methods for cost effectiveness and potential environmental benefits is provided in Table 3.

Table 3: Contrast of the recycler truck and excavator methods

	Recycler Truck	**Excavator with a silt bucket**
Advantages	Left the road reserve free of spoil Tuna (eel) trapping beforehand, rather than - this takes more time, but could be better handling for the tuna.	Cost effective Faster than the sucker truck to remove silt. The Church Bush Road sediment traps was cleaned out within 2.5 hours (21 or 22 bucket scoops removed)
Disadvantages	More costly Slower method- total time was 6 hours (therefore less can be removed in the 4 hour clarity window of consent CRC195065) Still can dislodge sediment (i.e. vacuum hose needs to be unblocked by running in reverse) Reliant on good weather to be able to bring the recycler truck onto the road reserve.	Eel rescue is required from the spoil afterwards, and tuna could be hurt by the excavator silt bucket. The spoil is required to be left to dewater and then the CORDE team needs to return to transport the spoil away. Some sites might need re-grassing (not needed in this case)

	The truck could get stuck in during wetter weather. Problems with spoil disposal due to being so liquid to contain to a disposal area Reliant on good weather to be able to bring the recycler truck onto the road reserve Health and safety issues to have a person in the waterway – mitigated by safety measures from Hydrotech Ltd.	

Argillite roading trial

4.12. Argillite can be a good roading base in problem areas where there is drainage run-off of sediment fines and dust issues especially. This is the case at the Marsh Road – Waikoruru Road – Lower Camside Road intersection. Argillite was trialled by the WDC Roading Team, with partial funding from the Cam River Enhancement Fund due to the potential to reduce sediment into the waterway (Figure 7). Unfortunately, due to the nature of the product, the trial was unsuccessful. This was due to faster deterioration and increased maintenance costs of repairing the road with cold mix. The road was also unable to be graded for maintenance. This section of road has been reverted mostly back to the original material while still maintaining some argillite properties.

Figure 7: A trial argillite roading section on Waikoruru Road, in the approach to the bridge over the Cam River. Note the argillite has created a hardened surface that prevents erosion of the material and dust into the waterway.

North Brook bank stabilisation

4.13. A willow was removed and the bank was stabilised on the North Brook due to scour of the true left bank (Figure 8).

Figure 8: Site of the willow removal and bank stabilisation on the North Brook before works were carried out.

Implications for Community Wellbeing

There are implications on community wellbeing by the issues and options that are the subject matter of this report. The Cam River and its tributaries will have improved water quality and habitat for indigenous biodiversity, with improved wellbeing for our community who used the waterways for amenity, recreation and mahinga kai.

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

5. COMMUNITY VIEWS

5.1. Mana whenua

5.1.1. Te Ngāi Tūāhuriri hapū are likely to be affected by, or have an interest in the subject matter of this report. Therefore this report will be presented and/or circulated at a Te Ngāi Tūāhuriri Rūnanga – WDC meeting.

5.2. Groups and Organisations

5.2.1. There are groups and organisations likely to be affected by, or to have an interest in the subject matter of this report, such as the North Canterbury Fish and Game Council and Department of Conservation who will be consulted about these intended works. North Canterbury Fish and Game and the Department of Conservation were consulted on the strategic review for the Fund in 2021 (TRIM211014166428).

5.2.2. The Cam River Enhancement Fund subcommittee, under which budget allocation was made, was disestablished in 2019. This subcommittee had representation from North Canterbury Fish and Game, Te Ngāi Tūāhuriri Rūnanga, the Cam River Working Party, as well as the agency representatives from the Department of Conservation and Environment Canterbury.

5.3. Wider Community

5.3.1. The wider community is not likely to be affected by, or to have an interest in the subject matter of this report. The wider community has not been specifically consulted on the Cam River Enhancement Fund.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

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

6.1.2. The current budget is $166,000 as of 1 October 2023 which composed of the initial payment from the Environment Court ruling and accrued interest. The proposed spend is $34,000, with remaining funds of $132,000.

6.1.3. This budget is included in the Annual Plan/Long Term Plan 2022-23 as an existing budget that has been is a carried over from previous annual budgets.

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6.2. Sustainability and Climate Change Impacts

6.2.1. The recommendations in this report do have specific climate change impacts. With the implementation of the Cam River Enhancement Fund projects waterway are intended to move towards being more self-sustaining and resilient to climate change.

6.3. Risk Management

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

6.4. Health and Safety

6.4.1. There are no specific health and safety risks arising from the adoption/implementation of the recommendations in this report. Suitable safety procedures will also be determined for contractors working within the Cam River main stem or its tributaries when a contractor is confirmed.

7. CONTEXT

7.1. Consistency with Policy

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

7.2. Authorising Legislation

7.2.1. Resource Management Act (1991) - Resource consents are issued under this Act.

7.3. Consistency with Community Outcomes

7.3.1. The Council's community outcomes, particularly 'There is a healthy and sustainable environment' relevant to the actions arising from recommendations in this report.

7.4. Authorising Delegations

7.4.1. The Utilities and Roading Committee holds the delegation for the allocation of budget for the Cam River Enhancement Fund.

WAIMAKARIRI DISTRICT COUNCIL

MEMO

FILE NO AND TRIM NO:	DRA-19 / 220124008290
DATE:	24 January 2022
MEMO TO:	Sandra Stewart - Land and Water Committee Chair Gerard Cleary- Utilities and Roading Manager
FROM:	Sophie Allen – Water Environment Advisor
SUBJECT:	**Cam River Enhancement Fund policy for fencing costs**

1. Policy objective

1.1. Any fencing approved under this policy must meet the objective noted in the Environment Court decision that created the Cam River Enhancement Fund, to be used 'for habitat restoration in the Cam River system'.

2. Process and Advice

2.1. Regulations for stock exclusion under Plan Change 7 of the Canterbury Land and Water Regional Plan and the RMA Stock Exclusion Regulations (2020) shall be discussed with the landowner and/or stock controller. Cam River Enhancement Fund projects should meet or exceed stock exclusion requirements.

2.2. Land management practices shall be reviewed holistically by the landowner and/or stock controller (with the support of WDC or Environment Canterbury staff), with fencing proposed alongside other good management practices (GMP). GMP proposed could be incorporated into a farm environment plan, small block management plan, or freshwater management plan for example.

2.3. Waimakariri District Council staff shall seek advice and input from Environment Canterbury land management staff regarding proposed fencing projects.

2.4. Waimakariri District Council staff will present fencing projects to the Land and Water Committee (or delegated representatives of the Committee) for approval, detailing how the project meets the policy objective 'for habitat restoration in the Cam River system', estimated fencing cost, proportional cost to WDC, and any associated planting.

2.5. WDC shall sign a written agreement, such as a memorandum of understanding (MOU) with the landowner and/or stock controller before carrying out the fencing project. This shall state that the fencing shall be a 'permanent fence' with the minimum requirements defined by the RMA stock exclusion regulations (2020) to be:

2.5.1. a post and batten fence with driven or dug fence posts; or

2.5.2. an electric fence with at least 2 electrified wires and driven or dug fence posts; or

2.5.3. a deer fence.

3. Fencing Criteria

3.1. WDC staff request the discretion to fund up to 100% of reasonable fencing costs if:

3.1.1. Movement of an existing and 'functional' fence is required in order to achieve the required setback or stock exclusion for a Cam River Enhancement Fund project. 'Functional' is defined as meeting Canterbury Land and Water Regional Plan (LWRP) stock exclusion rules (including Plan Change 7).

3.1.1.1. An exemption (requiring individual negotiation) is if a fence is currently not on a correct property boundary.

3.2. WDC staff request the discretion to be able to fund up to 100% of reasonable fencing costs for a new fence if:

3.2.1. A fence is required for effectiveness of a Cam River Enhancement Fund project, but fencing is **not** required under Plan Change 7 of the Land and Water Regional Plan stock exclusion rules or RMA Stock Exclusion Regulations (2020). (e.g. installation of sheep fencing to prevent grazing of plants) and/or

3.2.2. A significant setback from the waterway will be created that is not required by the Land and Water Regional Plan (including Plan Change 7) or the RMA Stock Exclusion Regulations (2020).

3.3. WDC staff request the discretion to be able to fund up to 50% of reasonable fencing costs if a new fence is required that is on a shared property boundary with WDC-owned land.

3.4. WDC staff proposes to not fundthe fencing costs (i.e. 0%) if a new fence or fence upgrade is required under Plan Change 7 Land and Water Regional Plan stock exclusion rules or RMA Stock Exclusion Regulations (2020). Under Plan Change 7 fencing of artificial watercourses is required in some cases in the Waimakariri Water Zone.

3.4.1. An exemption to 3.4 above: WDC staff request the discretion to be able to fund up to 100% of reasonable fencing costs for a new fence (even if a new fence or fence upgrade is required under Plan Change 7 Land and Water Regional Plan stock exclusion rules) if:

3.4.1.1. A property has been disadvantaged from development due to current or historic discriminatory legislation and/or regulations relating to Māori-owned land since the signing of te Tiriti o Waitangi. Consideration to who the stock owner is, and whether they have the ability to fund fencing will also be taken into account by WDC staff.

3.5. WDC staff request the discretion to not move a fence to obtain the RMA Stock Exclusion Regulations (2020) setback of 3m if:

3.5.1. There is an existing permanent fence that is of good condition that was in place before 3 September 2020;

3.5.2. A landowner is not willing to move a fence line to the ideal desired setback distance.

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR INFORMATION

FILE NO and TRIM NO:	DRA-23-02/231005158021
REPORT TO:	UTILITIES AND ROADING COMMITTEE
DATE OF MEETING:	21 November 2023
AUTHOR(S):	Sophie Allen – Water Environment Advisor
SUBJECT:	Rangiora Stormwater Management Plan 2025-40 work programme
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report outlines the work programme for drafting a Rangiora Stormwater Management Plan (SMP) by 1 January 2025, as required under CRC184601, the Rangiora stormwater network discharge consent. The proposed duration of the SMP is from 2025-2040.

1.2. The SMP seeks to achieve the receiving environment objectives set in Condition 8 of consent CRC184601; including mitigation of downstream flooding of dwellings, scour and erosion (8a and b); improving stormwater quality (8c), and protecting wāhi tapu, wāhi taonga and mahinga kai species and habitat (8d and e). It is anticipated that the prioritised projects for the SMP will focus primarily on the objective 8c for improved stormwater quality, as this is the area where the need is greatest, however some projects will seek to meet the other receiving environment objectives.

1.3. Water quality monitoring results from Rangiora baseline monitoring in 2014-17 and 2021-23 under consent CRC184601 show non-compliance for several contaminants. In the consent application, the Council proposed to Environment Canterbury to implement stormwater improvement projects to meet compliance levels by 2040. Stormwater improvement projects are required to be implemented to achieve this compliance. A budget for these stormwater quality improvements is earmarked to cost $9.4 million in the current Long Term Plan 2021-31.

1.4. A key component of the SMP is an assessment of treatment and source control options to create a list of stormwater quality improvement projects that are prioritised and costed at a high-level. This work will be undertaken by Council staff by June 2024 for integration into the first draft of the SMP.

1.5. Initial consultation with Te Ngāi Tūāhuriri hapū via Mahaanui Kurataiao Ltd, the Rangiora Ashley Community Board and the Waimakariri Water Zone Committee has taken place regarding the proposed work programme and timeframes for drafting of the SMP.

Attachments:

i. Consent CRC184601 – The Rangiora Stormwater Network Discharge Consent (TRIM 210520080480)

2. RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 231005158021.

(b) **Notes** the timeline, work programme, and consultation proposed for the production of a Rangiora Stormwater Management Plan 2025-2040 as required by consent CRC184601 by 1 January 2025.

(c) **Circulates** this report to the Te Ngāi Tūāhuriri Runanga - WDC quarterly meeting, Waimakariri Water Zone Committee and Rangiora Ashley Community Board.

3. BACKGROUND

3.1. The duration of the SMP is proposed to be from 2025-2040, as 2040 was stated in the CRC184601 consent application as the date by which the Council intends to meet Land and Water Regional Plan limits.

3.2. There was an SMP drafted in 2001 for Rangiora. This was focussed on managing stormwater quantity and flood control. It has been largely implemented.

3.3. An Interim SMP for Rangiora was drafted for the application for consent CRC184601 (TRIM 171206132761). This SMP can be partially used as a basis for the drafting of the SMP 2025-2040.

4. ISSUES AND OPTIONS

Objectives of the SMP

4.1. Receiving Environment Objectives are set out in Condition 8 of CRC184601, which are proposed to be the objectives for the Rangiora SMP.

The consent holder shall use best practicable options to achieve the following:

(a) Avoid stormwater that is discharging from the reticulated stormwater system from entering any dwelling house located downstream of any network discharge point during any duration two percent Annual Exceedance Probability rainfall event; and

(b) Avoid stormwater that is discharging from the reticulated stormwater system from causing erosion or scour of any receiving or downstream waterway, or causing damage to any downstream infrastructure; and

(c) The receiving environment objectives for management of stormwater discharge quality and which measure the associated effects on receiving waterways set out in Schedule 1 to consent CRC184601; and

(d) The protection and culturally appropriate treatment of wāhi tapu and wāhi taonga habitats and sites (if or where identified by Te Ngāi Tūāhuriri Rūnanga) and cultural items or artefacts; and

(e) The management of stormwater discharges in a manner that protects and enhances mahinga kai species of value to Te Ngāi Tūāhuriri Rūnanga, and enhances mahinga kai areas.

Focus on stormwater quality improvement

4.2. There has been previous work on prevention of downstream flooding, scour and erosion, such as projects from the Rangiora SMP in 2001 and flood recovery work after the 2014 flood event. As CRC184601 is the first stormwater network discharge consent to be issued for Rangiora (granted in May 2021), it is anticipated that the Rangiora SMP will focus primarily on stormwater quality improvement projects to be compliance with contaminant levels set in Schedule 1 and the Rangiora Stormwater Monitoring Programme which forms part of the consent. Further scoping work with Te Ngāi Tūāhuriri Rūnanga (via Mahaanui

Kurataiao Ltd) is proposed for inclusion of a work programme in the SMP for consent conditions 8 (d) and (e).

Prioritisation Framework

4.3. A stormwater quality improvement framework is proposed to be developed to allow prioritisation of stormwater quality improvement projects, similar to a 'toolbox treatment hierachy' and values framework that was developed by Christchurch City Council for the Avon Otākaro Stormwater Management Plan 2015. This is anticipated to allow for weighted evaluation of treatment and source control options, costs, and outcomes achieved to produce a prioritised project list.

There is an issue to resolve of how to evaluate stormwater quality improvement projects under objective 8 (d) against other improvement projects that meet other receiving environment objectives, but that cannot be evaluated under the same framework.

Work programme completed

4.4. Some work streams have been completed already which will feed into the SMP. Baseline water quality sampling from 2014-17 and water quality monitoring under consent CRC184601 has been carried out for 2021-23. These results show contaminants of concern and sub-catchments to target. The first annual monitoring report for Rangiora stormwater 2021-22 was presented to the Utilities and Roading Committee in October 2023 (TRIM 230904136693). This monitoring report raised specified sub-catchments where to target work, and also recommendations for further investigations.

4.5. A Contaminant Load Model (CLM) has been developed for Rangiora for the contaminants copper, zinc and total suspended solids (TSS). This CLM can be re-run with different treatment scenarios (such as storm filters, wetland, rain gardens), to select the best treatment to achieve stormwater improvements.

4.6. Outline Development Plans are included in the Operative District Plan that consider stormwater treatment. For future development areas, submitters to the Proposed District Plan are required to consider stormwater treatment in rezoning submissions, including in the preparation of an Outline Development Plan.

4.7. Environment Canterbury has a compiled database of sites where hazardous activities and industries have been located within Rangiora called the Listed Land Use Register (LLUR) which will be used to inform the SMP.

Timeline

4.8. The proposed drafting timeline of the SMP is in Table 1. Consent CRC184601 requires the SMP to be submitted to Environment Canterbury by 1 January 2025.

Table 1: Drafting timeline for the Rangiora Stormwater Management Plan 2025-40

Work programme activity	Started by	Completed by
Flood modelling - Re-run of the Rangiora Urban Stormwater Model (potentially including Cam River flood investigation work too)	November 2023	December 2023
Stormwater quality improvement framework	November 2023	January 2023
First draft completed including;	November 2023	June 2024

- drafting input from Te Ngāi Tūāhuriri Rūnanga via MKL if desired (as per Condition 13 of CRC184601) - stormwater improvement projects prioritisation and high-level costing		
First draft review by MKL and other key stakeholders	June 2024	September 2024
Reply to MKL on comments to the first draft (condition 13 CRC184601)		20 working days after receiving feedback
Final draft submitted to Utilities and Roading Committee or Council seeking approval		December 2024
Finalised version submitted to Environment Canterbury		1 January 2025

Roles and Governance

4.9. The SMP is proposed to be developed primarily 'in-house' by Council staff with external consultation. Key roles for delivery of the SMP sit within the 3 Waters team and the Network Planning team (Project Delivery Unit).

4.10. Project progress tracking and discussion is proposed to be via the existing Stormwater Network Discharge Consents Project Control Group (Terms of Reference TRIM 210517077902), which meets quarterly.

4.11. The Utilities and Roading Committee holds the delegated authority to approve the final SMP if allocating existing Drainage budget. Any request for new budget would require the SMP to be approved by Council.

4.12. Water quality monitoring results from Rangiora baseline monitoring in 2014-17 and 2021-23 under consent CRC184601 show non-compliance for the levels of several contaminants. The first annual monitoring report for Rangiora stormwater 2021-22 was presented to the Utilities and Roading Committee in October 2023 (TRIM 230904136693). This monitoring report raised specified sub-catchments where to target work, and also recommendations for further investigations.

4.13. Initial consultation with Te Ngāi Tūāhuriri hapū via Mahaanui Kurataiao Ltd, Rangiora Ashely Community Board and the Waimakariri Water Zone Committee has taken place regarding the intention and timeframes for drafting of the SMP. Te Ngāi Tūāhuriri hapū have been invited to be involved in the drafting of the SMP (via Mahaanui Kurataio Ltd) and will review the draft SMP (as provided by Condition 13 of consent CRC184601).

Programmed capital works

4.14. Some programmed capital works for stormwater quality improvements in Rangiora will be implemented prior to the completion of the SMP and therefore will not re-examined by the SMP stormwater quality improvement framework. For example, North Brook tributary (Railway Drain) stormwater quality improvements are planned to be designed in 2023-24, then implemented in 2024-25. This will treat stormwater from the commercial centre of Rangiora. However, some programmed drainage capital works currently in the Long term Plan from 2025-26 onwards will be re-examined and re-prioritised by the SMP, such as projects on the North Drain and Middle Brook.

Implications for Community Wellbeing

4.15. There are wider implications on community wellbeing by the issues and options that are the subject matter of this report. A Rangiora Stormwater Management Plan will enable improved stormwater, mahinga kai quality, and nuisance flooding improvements downstream of the township.

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

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū are likely to be affected by, or have an interest in the subject matter of this report. WDC staff are scoping consultation with Te Ngāi Tūāhuriri hapū for the SMP via Mahaanui Kurataiao Ltd.

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 and to have an interest in the subject matter of this report, to improve waterways within and below Rangiora township.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

Existing operational budget will be used for the drafting of the SMP, for costs such as staff time from the Project Delivery Unit and engagement with Te Ngāi Tūāhuriri hapū via Mahaanui Kurataiao Ltd.

There are no financial implications of the decisions sought by this report. However, $9.4 million is currently allocated in the Long Term Plan 2021-31 for stormwater improvements in Rangiora under the SMP commencing in 2027-28. This has been proposed to be brought forward to commence in 2025-26 in a separate submission on the draft Long Term Plan 2024-34, to allow for projects prioritised in the SMP to be progressed.

Additional budget for stormwater improvements in Rangiora is expected to be required beyond the 10-year period of the Long Term Plan 2024-2034 up until 2040 (the end of the SMP), however only indicative costing will be specified in the SMP with no budget set at this stage.

6.2. Sustainability and Climate Change Impacts

The recommendations in this report do have sustainability and/or climate change impacts. The waterways of Rangiora and downstream will provide a healthier environment for indigenous biodiversity, mahinga kai, amenity and recreation.

6.3 Risk Management

There are no specific risks arising from the adoption of the recommendations in this report. This report is for information only.

6.3 Health and Safety

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

7. CONTEXT

7.1. Consistency with Policy

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

7.2. **Authorising Legislation**

Resource Management Act (1991) – under which Environment Canterbury has issued consent CRC184601.

7.3. **Consistency with Community Outcomes**

The Council's community outcomes are relevant to the actions arising from recommendations in this report, particularly provision of a 'healthy and sustainable environment for all' through healthier waterways in Rangiora.

7.4. **Authorising Delegations**

The Utilities and Roading Committee holds the delegation to approve the Rangiora SMP 2025-40 under existing budgets. Any request for reallocation or new budget requires approval of the Council.

18 May 2021

Environment Canterbury
Regional Council
Kaunihera Taiao ki Waitaha

Customer Services
P. 03 353 9007 or 0800 324 636
200 Tuam Street
PO Box 345
Christchurch 8140
E. ecinfo@ecan.govt.nz
www.ecan.govt.nz

Waimakariri District Council
Attn To: Janet Fraser
Private Bag 1005
Rangiora 7440

Dear Sir/Madam

Correction to Resource Consent Decision

Record Number(s): CRC184601
Applicant Name: Waimakariri District Council
Activity Description: To discharge stormwater and water treatment chemicals into land and to surface water.

It has come to our attention that there were errors in the above consent(s). As such, please destroy the document(s) currently in your possession and replace it with the enclosed corrected decision documents.

Errors identified

Condition 18
A full stop was missing from the end of the condition 18.

Condition 18 has been amended to read:
Any adverse effects resulting from circumstances described in condition 14(c)(i) shall be addressed by the consent holder undertaking mitigation or implementing a solution using the best practicable option to achieve the water quantity requirements of this resource consent.

Condition 20
Condition 20 referred to conditions 18 and 19. The correct reference is to condition 17 and 18.

Condition 20 has been amended to read:
*A solution referred to in condition **(17) or (18)** may include compensatory works, including the removal of network drain or receiving waterway sedimentation, increase in capacity or removal of obstructions from any network drain or watercourse within the receiving environment; and mitigation referred to in condition **(17) or (18)** may include any necessary upgrade of attenuation facilities within the reticulated stormwater system.*

Condition 22
Condition 22 failed to reference the actual schedule / document as per usual practice.

Condition 22 has been amended to read:
Stormwater systems which form part of the Rangiora reticulated stormwater network, for which the WDC is responsible, shall be maintained in accordance with the "WDC Stormwater Maintenance Schedule", referenced as **CRC184601 - Schedule 2**.

Queries

For all queries please contact our Customer Services Section quoting your CRC number above.

Yours sincerely

Cecilia Tolan
Resource Consent Administrator

RESOURCE CONSENT CRC184601

Pursuant to Section 104 of the Resource Management Act 1991

The Canterbury Regional Council (known as Environment Canterbury)

GRANTS TO:	Waimakariri District Council
A DISCHARGE PERMIT (S15):	To discharge stormwater and water treatment chemicals into land and to surface water.
COMMENCEMENT DATE:	07 May 2021
DATE CONSENT NUMBER ISSUED:	07 May 2021
EXPIRY DATE:	30 Jun 2045
LOCATION:	Rangiora urban limits

SUBJECT TO THE FOLLOWING CONDITIONS:

Definitions

0 *Note: the definitions used within this consent are consistent with those used in the Canterbury Land and Water Regional Plan or the Waimakariri District Council Stormwater Drainage and Watercourse Protection Bylaw 2018, unless stated otherwise below.*

Approved means approved by the Waimakariri District Council (WDC) as complying with the requirements of this resource consent.

Bylaw means the WDC Stormwater Drainage and Watercourse Protection Bylaw 2018, or any successor to that document.

Construction-phase stormwater means water, sediment and entrained contaminants resulting from precipitation on exposed or unstabilised land and which arises from construction or demolition activities, or the development of a building site.

Erosion and Sediment Control Plan means a plan that has been prepared in accordance with the Environment Canterbury Erosion and Sediment Control Toolbox for Canterbury, or its successor document.

First flush means the initial stormwater runoff from a rainfall event to be treated, determined based on:

a. Water quality volume generated from no less than 25 millimetres of rain falling on impervious or pervious areas of a site over 24 hours for greenfields developments; and
b. No less than 10 millimetres and no more than 25 millimetres of rain falling on impervious or pervious areas of a site over 24 hours for retrofitted or redeveloped sites; or

c. Water quality flow generated from rainfall at an intensity of 5 to10 millimetres per hour intensity on impervious areas of a site.
d. Antecedent precipitation conditions should be considered, where a first flush storm needs to have a prior period of at least 72 hours of no measurable precipitation.

Greenfield site means the construction of subdivisions, buildings, roads and associated network services on previously undeveloped land, such as land previously used for agricultural purposes and which require WDC subdivision and land use consent(s).

High-risk site means a site where a high-risk activity is occurring as defined in Schedule 1 of the Stormwater Drainage and Watercourse Protection Bylaw 2018.

Medium-risk site means a site where a medium-risk activity is occurring as defined in Schedule 1 of the Stormwater Drainage and Watercourse Protection Bylaw 2018.

Network discharge point means the point where the WDC system discharges stormwater from the reticulated stormwater system into the receiving environment.

Non-stormwater contaminant means the discharge of substances or quantities of substances from private activities where the substance or quantity of the substance is not a usual component of stormwater, including via spills or deliberate disposal or release into the stormwater system and washdown. Non-stormwater contaminants may include (but are not limited to) concrete, cement slurry, sewage, effluent, solvents, soap, detergents, significant quantities of dissolved metals, hazardous substances and materials, fungicides, herbicides, insecticides, litter and green waste. If entrained in stormwater these substances may have an adverse effect on aquatic life and the receiving environment. Non-stormwater contaminants also include groundwater, land drainage water and dewatering water as defined in the Canterbury Land and Water Regional Plan.

Pollution Prevention Plan means a WDC approved plan which identifies actual or potential risks relating to the discharge of contaminants from a specific site or operation, and the management strategies implemented or proposed to mitigate these risks.

Redeveloped site means a change of land use involving intensification and increase in run-off coefficient, or change from one built use to another.

Stormwater means runoff water and entrained contaminants arising from precipitation on the external surface of any structure or any land modified by human action, and that has been channelled, diverted, intensified or accelerated by human intervention. Stormwater excludes any non-stormwater contaminants and construction-phase stormwater, which are defined separately under this resource consent.

SMP means Stormwater Management Plan.

WDC means Waimakariri District Council.

Description

1 The discharge shall only be stormwater and construction-phase stormwater discharged from the Rangiora reticulated stormwater system owned and operated by the WDC, within the Rangiora urban limits as shown on Plan CRC184601A which forms part of this resource consent, that:

a. Enters the Rangiora reticulated stormwater system then is subsequently discharged into surface water, or onto or into land in circumstances where it may enter groundwater; and
b. Is generated from:
    i. Roads, roofs, hardstanding areas and pervious areas that discharge into the Rangiora reticulated stormwater system where the discharge existed prior to the commencement of this resource consent;
    ii. Roads, roofs, hardstanding areas and pervious areas that discharge into the Rangiora reticulated stormwater system from greenfield or redeveloped sites first developed or redeveloped after the date of this resource consent being issued;
    iii. Any site where a construction-phase stormwater discharge is occurring into the Rangiora reticulated stormwater system, including the discharge of residual water treatment chemicals used for the purpose of reducing the concentration of sediment in the discharge.

Advice note: *WDC approval is required prior to any activity operating under this consent. Approval is subject to evidence being provided to satisfy WDC that the activity will meet the conditions of this consent.*

Advice note: *This consent only authorises discharges that enter the Rangiora reticulated stormwater network and does not authorise discharges via private stormwater outfalls into the receiving environment or discharges into land on individual properties.*

Advice note: *For the avoidance of doubt, until such time that new reticulated stormwater system infrastructure is vested to WDC, the associated discharge of stormwater or construction-phase stormwater, from property/s that discharge onto or into land or directly into a receiving waterway within the area shown within the Rangiora reticulated stormwater system urban limits in CRC184601A, are excluded from the stormwater network discharge consent.*

2 Notwithstanding condition (1), the following activities and discharges are excluded from discharging under this resource consent prior to 1 January 2025:

a. Discharges from any high-risk site, unless either:
    i. For existing sites, the risk associated with the discharge has been determined by the WDC to be acceptable based on the site owner/occupier demonstrating that there is no discharge of any contaminant from the site into the reticulated stormwater system that may cause a nuisance, adversely affect the stormwater system or adversely affect aquatic life; or
    ii. For existing sites, a discharge consent from the Canterbury Regional Council for the stormwater discharge from the site is obtained no later than six months after being requested by WDC, if required, or at a later date as agreed with WDC; or

iii. For greenfield and re-developed sites, a discharge consent from the Canterbury Regional Council for the stormwater discharge from the site is provided with the request to discharge stormwater into the reticulated stormwater system;

b. Discharge from any medium-risk site that does not comply with an approved Pollution Prevention Plan; or

c. Discharges from any site listed on the Canterbury Regional Council Listed Land-Use Register unless the risk associated with the discharge has been determined by the WDC to be acceptable based on either:

i. The site owner/occupier demonstrating that there is no discharge of any contaminant from the site into the reticulated stormwater system that may cause a nuisance, adversely affect the stormwater system or adversely affect aquatic life; or

ii. Technical advice received from the Canterbury Regional Council from previous site investigations that confirm the risk posed by the site is acceptable.

d. Construction-phase stormwater discharges that do not comply with an approved Erosion and Sediment Control Plan; or

e. Discharge of a non-stormwater contaminant from any other site into the reticulated stormwater system.

3 There shall be no discharge of stormwater or construction-phase stormwater into Crayfish Creek between the springhead and the confluence with the North Brook.

Specific Exclusions: From 1 January 2025

4 Notwithstanding condition (1), after 1 January 2025 the following sites, activities and/or discharges may be excluded from discharging under the Rangiora reticulated stormwater network consent if the site or activity has been identified by the WDC as posing an unacceptable risk to the receiving environment, being:

a. Any site that does not comply with an approved Pollution Prevention Plan;

b. Any site listed on the Canterbury Regional Council Listed Land-Use Register or where a HAIL activity described in Schedule 3 of the Canterbury Land and Water Regional Plan has historically occurred, where the discharge of stormwater from that site or activity is considered by WDC to pose an unacceptably high risk of surface water or groundwater contamination;

c. Any construction-phase stormwater discharge that does not meet any requirement of its approved Erosion and Sediment Control Plan;

d. Any other site or activity discharging a non-stormwater contaminant or contaminants, being contaminants that may cause a nuisance, adversely affect the stormwater system or adversely affect aquatic life.

Exclusion from the Rangiora reticulated stormwater network consent from 1 January 2025 shall be subject to the process for exclusions set out in conditions (5) to (7):

Advice note: *If a site, activity and/or discharge is excluded from the Rangiora reticulated stormwater network consent a discharge consent will be required for the discharge from the Canterbury Regional Council unless it can be demonstrated that the discharge is permitted under the relevant operative and proposed regional plan(s). If the required discharge consent is not obtained enforcement may be undertaken by the WDC under provisions of the Bylaw and/or by the Canterbury Regional Council or WDC under the provisions of the Resource Management Act 1991.*

Advice note: *The current Bylaw will need to be amended prior to 1 January 2025 to allow stormwater from high-risk sites to be accepted into the Rangiora reticulated stormwater network consent with a pollution prevention plan, and without following the process set out in condition (2)(a)(i) to (2)(a)(iii).*

Process for Exclusions from 1 January 2025

5 Prior to 1 January 2025 WDC shall, in agreement with the Canterbury Regional Council, develop a process through which the risk to surface water and groundwater quality from discharges from sites or activities described in condition (4) can be assessed by a Suitably Qualified and Experienced Person (SQEP) who is a contaminated land or pollution prevention practitioner, including developing the criteria that will be used to identify which sites are likely to have an unacceptably high risk to surface water or groundwater quality.

6 The process developed in condition (5) shall be implemented from 1 January 2025 and during implementation, the following actions and processes shall be undertaken prior to excluding any site from the Rangiora reticulated stormwater network consent:

a. WDC shall, in order to address any adverse effects associated with stormwater discharges from a site, undertake the following:
    i. Provide advice and education to the site owner and/or operator; and
    ii. If necessary, require the owner / operator to engage a Suitably Qualified and Experienced Person to further advise them on suitable options to address any adverse effects of their site discharges.
b. If the actions described in condition 6(a) have been undertaken and adverse effects of the stormwater discharges have not been adequately avoided or mitigated, WDC shall issue warnings, statutory notices, enforcement orders and/or infringement notices under the Bylaw or Resource Management Act related to these stormwater discharges into the reticulated stormwater system as appropriate;
c. Following the receipt of the communication described in condition (6)(b), if the site owner and/or operator has not avoided or mitigated, or demonstrated progress in avoiding or mitigating, the adverse effect(s) of the discharge, within the timeframe specified by the WDC, and the risk to the environmental outcomes described in condition (8) remains unacceptably high, then the site may be excluded from the Rangiora reticulated stormwater network consent, subject to confirmation from the Canterbury Regional Council that the process outlined in Condition 6 has been followed.

7 The exclusion of sites under condition (4) can occur via the following processes, once the steps required in condition (6) have been completed and, if adverse effects of the stormwater discharges continue to not be adequately mitigated:

a. WDC advises the owner/occupier in writing that the site is excluded from the Rangiora reticulated stormwater network consent and that either a separate consent from the Canterbury Regional Council is required that authorises the discharge or it is demonstrated by the owner/occupier that discharge is permitted under the relevant operative regional plan(s); and
b. The consent holder shall maintain a Schedule of sites that have been excluded from this consent; and
c. The consent holder may apply any other mechanism that it considers necessary to formally exclude the site as agreed with the Canterbury Regional Council.

Receiving Environment Objectives

8 The consent holder shall use best practicable options to achieve the following:

a. Avoid stormwater that is discharging from the reticulated stormwater system from entering any dwelling house located downstream of any network discharge point during any duration two percent Annual Exceedance Probability rainfall event; and
b. Avoid stormwater that is discharging from the reticulated stormwater system from causing erosion or scour of any receiving or downstream waterway, or causing damage to any downstream infrastructure; and
c. The receiving environment objectives for management of stormwater discharge quality and which measure the associated effects on receiving waterways set out in Schedule 1 to this consent; and
d. The protection and culturally appropriate treatment of wahi tapu and wahi taonga habitats and sites (if or where identified by *Te Ngai Tuahuriri Runanga*) and cultural items or artefacts; and
e. The management of stormwater discharges in a manner that protects and enhances mahinga kai species of value to *Te Ngai Tuahuriri Runanga, and enhances mahinga kai areas.*

Advice Note: *The limits and targets which measure stormwater discharge quality and receiving waterway effects, and which prompt required responses, apply when managing contaminants demonstrated to be discharging from the reticulated stormwater system including from private connections to the system that are authorised under this consent.*

Advice Note: *The Rangiora stormwater network monitoring programme also includes a "stream health" section including requirements to gather baseline and trend information on environmental targets for environmental reporting purposes. These are not compliance requirements of this consent. This reporting may demonstrate progress toward receiving environment objectives that are the result of interventions undertaken or natural processes occurring outside of the scope of this consent.*

Stormwater Management Plan

9 Before 1 January 2025, a Stormwater Management Plan (SMP) shall be prepared, and from 1 January 2025, be maintained and implemented for the duration of this consent. The purpose of the SMP is to detail the options to manage the stormwater discharges authorised by this resource consent so that the receiving environment objectives and targets set out in condition (8) will be met. The SMP shall include but not be limited to:

a. Details of the current status of stormwater quality improvement measures implemented within the catchment;
b. A description of the understanding of the overall effects the existing discharge is having on the receiving environment;
c. A description of the catchment areas covered by the SMP that are developed at the time of writing the SMP, and an assessment of what additional development is anticipated in the Rangiora township prior to the next review of the SMP;
d. Details of the outcome of investigations undertaken into water quality or water quantity, and any investigations that are proposed to occur to inform future SMP decisions and implementation;
e. Details of the contaminant load model developed for the township, including outcomes of the modelling;
f. Details of measures that will be used to manage discharges of stormwater authorised by this resource consent;
g. Details of the management of stormwater from sites requiring or that will require a pollution prevention plan and / or from sites involving the use, storage or disposal of hazardous substances;
h. A description of funding available for stormwater improvement projects proposed over the next five years and how these funds will be allocated among the prioritised highest risk areas within the Rangiora township;
i. Methods that will be used to:
    i. Maintain compliance with the water quantity limits and requirements in condition (8)(a) and (b);
    ii. Work toward achieving the limits and targets in the monitoring programme "urban impact" sections, as required by condition 8(c), including:
        a. A detailed description of the adaptive management approach that will be implemented, and how decisions will be made;
        b. Reflecting the outcomes of the contaminant load model developed;
        c. Consideration of innovative technologies, including trials which have been undertaken;
        d. Implementation of source controls;
        e. The use of sustainable urban design in sub-catchments; and
        f. Considering the feasibility/practicability of retrofitting existing catchments;
    iii. Progress toward meeting the objectives and values of *Ngai Tuahuriri as set out in condition 8(d) and (e); and*
    iv. Implement the measures set out in condition (14).
j. Requirements for appropriate disposal of contaminated material removed from stormwater basins in accordance with the requirements of this resource consent to a disposal location authorised to receive that material.

10 The SMP shall be reviewed at least once every 5 years, and revised, if required, to respond to:

a. The results of monitoring undertaken in accordance with this consent;
b. The results of updated hydraulic modelling for the catchments which receive stormwater under this consent;
c. Any changes to relevant national and/or regional planning documents, including those that result from the Land and Water Regional Plan sub-regional chapter development process;
d. New technologies or changes in good practise stormwater treatment.

11 In addition to the revisions required under condition (10), the SMP shall be revised at other times if requested by the Canterbury Regional Council under the following conditions:

a. Any changes to relevant national, and/or regional planning documents including those that result from the Canterbury Land and Water Regional Plan (LWRP) sub-regional chapter development process; or
b. The results of monitoring or modelling, including any investigations or outcomes in relation to the responses to modelling and monitoring; or
c. The use of new technologies which may provide new opportunities for mitigation treatment and source control; and
d. Upon the release of any amendment to the Resource Management Act 1991, or any document accepted as a New Zealand Guideline or Standard, which addresses the stormwater management requirements set out in this consent.

12 Within one month of the adoption of the SMP prepared in accordance with condition (9), and subsequent revisions to the SMP prepared in accordance with condition (10) or condition (11), the SMP shall be submitted to the Canterbury Regional Council, Attention: Regional Leader – Compliance Monitoring, along with an explanation of the changes that have been made, for certification that it complies with the conditions of this consent.

Te Ngai Tuahuriri Runanga Engagement

13 *Te Ngai Tuahuriri Runanga* shall be provided with an opportunity to contribute to the development and each review of the SMP and any periodic reviews undertaken of the monitoring programme. The following process shall be followed:

a. The SMP required by condition (9), and revisions to the SMP required by conditions (10) or (11) shall be provided to *Te Ngai Tuahuriri Runanga* for comment.
b. Any periodic review of the monitoring programme and associated proposals shall be provided to *Te Ngai Tuahuriri Runanga* for comment.
c. *Te Ngai Tuahuriri Runanga* shall be provided at least 30 working days to provide feedback on the SMP or any proposed changes to the monitoring programme, and the timeframe for comments shall be communicated at the start of the process.
d. Within 20 working days of the consent holder receiving feedback, *Te Ngai Tuahuriri Runanga* and the Canterbury Regional Council, Attention: Regional Leader - Compliance Monitoring shall be provided with a written response to all *Te Ngai Tuahuriri Runanga* feedback on the SMP or monitoring programme.

Stormwater System Management

14 All stormwater systems for sites that discharge stormwater under this consent, which are constructed after the date of this consent being issued, shall be designed and constructed using the best practicable option to meet the requirements detailed in this condition and the receiving environment objectives in condition (8). Requirements include, but are not limited to:

a. Water quality and quantity mitigation facilities and devices shall be designed and constructed in accordance with the best practicable option and:
   i. The Christchurch City Council's *Waterways, Wetlands and Drainage Guide*, WDC's *Engineering Code of Practice* and the *Stormwater Drainage and Watercourse Protection Bylaw 2018* or their respective successor document(s); or
   ii. Other national and international best practice design criteria approved by the WDC over the duration of this resource consent.

Water Quantity

a. The consent holder shall ensure post-development discharge rates do not exceed pre-development discharge rates for a critical duration twenty percent and two percent Annual Exceedance Probability event within the receiving waterway when taking into account any greenfield or redeveloped site; and

b. The Rangiora reticulated stormwater system shall be managed by the consent holder so that there is no increase in the peak network discharges for the two percent Annual Exceedance Probability event that is caused by additional urban hardstand area discharges resulting from either:
   i. Any District Plan zone change or resource consent; or
   ii. Any urban infill or redevelopment within an existing zone that does not meet applicable plan rules or consent conditions.

***Advice note**: Any increase in peak network discharges confirmed to be caused by a change to any climate change factor, including any change to groundwater inundation levels or surface flows associated with climate change, or from any unapproved rural drainage diversion outside of the Rangiora urban limits, will be managed by the consent holder through processes outside of this consent.*

***Advice note:** Improvement to existing service levels including achieving the 50 year flood level of protection for properties connected and discharging into the Rangiora reticulated stormwater system will be managed by the consent holder through processes outside of this consent.*

Water Quality

d. The consent holder shall ensure that the stormwater system for each site connected or connecting to the reticulated stormwater system meets the following requirements (as applicable) so that the receiving environment objectives set out in condition (8) can be achieved:

Greenfield Sites

i. Each greenfield site connecting into the system after the commencement of this resource consent shall provide one or more of:
   a. An onsite treatment system designed and constructed to treat the first flush from the development; or
   b. A contribution as required by the WDC towards the provision of a new treatment system which includes capacity to treat the first flush from that development; or
   c. A contribution as required by the WDC towards the cost of existing stormwater treatment infrastructure previously developed and which has capacity to treat the first flush from the additional development.

Redeveloped Sites

ii. Sites redeveloped after the commencement of this resource consent, shall, unless otherwise agreed with the WDC, treat as much of the first flush as reasonably practicable and/or take any other action required by the WDC to minimise any discharge of contaminants from the activity or property.

15 a. Any stormwater discharge established after the commencement of this resource consent and authorised by the Consent Holder under Condition (1), shall not be located within any domestic and community drinking water supply protection zone equivalent to the protection areas specified in Schedule 1 of the LWRP, unless:
   i. In the case of domestic drinking water supply, the Consent Holder has made a reticulated water supply available to the property prior to the discharge commencing; or
   ii. An assessment of site-specific information undertaken by the Consent Holder, and certified by the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance, demonstrates that the ability of the domestic and/or community drinking water supplier to meet the water quality standards for drinking water set out in the Drinking-Water Standards for New Zealand 2005 (Revised 2018) or any successor document is not compromised as a result of the stormwater discharge.

Advice Note: *For the avoidance of doubt, Condition (15) relates to both groundwater bores and surface water abstraction points used for domestic or community drinking water supply.*

Water quantity and flooding

16 The consent holder shall, at least once per year, through updating modelling or other means, investigate whether condition (14)(c) is being achieved. If this report reveals the condition is not achieved and an increase in peak network discharges could occur that is caused by any of the land use changes described in condition (14)(c), then the consent holder shall investigate and respond in accordance with conditions (17), (18) or (19).

17 Any increase in peak network discharges described in condition (14)(c) shall be investigated, including attempting to identify:

a. Reasons for any increases;
b. Any downstream effects occurring as a result of the increases, including effects of the urban stormwater discharges on downstream properties, infrastructure, farmland or erosion of any downstream waterway;
c. Any enforcement, solutions or mitigations proposed or already undertaken as appropriate and if necessary.

18 Any adverse effects resulting from circumstances described in condition 14(c)(i) shall be addressed by the consent holder undertaking mitigation or implementing a solution using the best practicable option to achieve the water quantity requirements of this resource consent.

19 Any adverse effects resulting from circumstances described in condition 14(c)(ii) shall be addressed by the consent holder commencing enforcement under the Bylaw.

20 A solution referred to in condition (17) or (18) may include compensatory works, including the removal of network drain or receiving waterway sedimentation, increase in capacity or removal of obstructions from any network drain or watercourse within the receiving environment; and mitigation referred to in condition (17) or (18) may include any necessary upgrade of attenuation facilities within the reticulated stormwater system.

21 Stormwater mitigation facilities constructed after the commencement of this resource consent shall include best practice features designed to capture and contain any spills of contaminants entering the stormwater facility as much as reasonably practicable.

Stormwater System Maintenance

22 Stormwater systems which form part of the Rangiora reticulated stormwater network, for which the WDC is responsible, shall be maintained in accordance with the "WDC Stormwater Maintenance Schedule", referenced as CRC184601 - Schedule 2.

23 WDC shall undertake all practicable measures to ensure that stormwater systems owned and operated privately, which discharge from the private system into the reticulated stormwater system and are covered under this resource consent, are maintained in accordance with best practice and to ensure that conditions (8) and (14) are given effect to.

High-risk Site Assessment and Management

24 Prior to 1 January 2025 a programme shall be developed through which the consent holder will identify and prioritise high-risk sites that represent a risk to the quality of the discharge from the Rangiora reticulated stormwater system, and work with the site owners and/or operators to improve stormwater discharge quality to give effect to conditions (8) and (14). The programme shall include, but not be limited to:

a. A programme for prioritisation and scheduling for auditing those high-risk sites identified as having the highest risk to water quality, including but not limited to:
    i. A process to develop and update a risk-ranked inventory of high-risk sites including a clear and objective method to prioritise the risks to water quality and a procedure for maintaining records of these sites;

ii. A process and schedule for periodically auditing and evaluating high-risk sites for compliance with the site's Pollution Prevention Plan including its conditions of approval for any WDC approved discharge and WDC's requirements regarding storage and handling of hazardous substances and management of spills (including condition (26) of this consent);
iii. a description of site-specific monitoring plans for particular sites from which the discharge is rated "high" in the risk matrix;
iv. process for consulting with the Canterbury Regional Council's Pollution Prevention Officers or other monitoring and compliance staff as necessary; and
v. A process for periodic review of this programme.

b. A description of the regulatory methods that will be used to ensure that stormwater discharges from individual high-risk sites will be managed to give effect to conditions (8) and (14);
c. Description of the process that will be used to determine whether a site will be excluded, or will remain excluded (should site-specific discharge permits expire), from authorisation under this resource consent due to its discharge into the Rangiora
reticulated stormwater system posing an unacceptably high risk of surface water or groundwater contamination. This shall include details of how engagement with site owners and operators will be undertaken.

25 After 1 January 2025, the consent holder shall implement the programme developed in accordance with condition (24), including but not limited to:

a. Undertaking audits of high-risk sites that discharge stormwater into the Rangiora reticulated stormwater system to confirm whether the sites are compliant with the sites' Pollution Prevention Plans and WDC's requirements regarding hazardous substances and management of spills; and
b. Directing the site owners and/or operators to improve stormwater discharge quality in accordance with the programme and so that the receiving environment objectives of condition (8) are met.

Management of Spills

26 The consent holder shall:

a. Undertake reasonably practicable steps to ensure that any medium-risk or high-risk sites or activities have in place all reasonably practicable measures to reduce the risk of non-stormwater contaminants from discharging into the reticulated stormwater system.
b. In the event of a spill of non-stormwater contaminants, require the responsible party, where identified, to clean up the spill as soon as practicable and if necessary require erosion and sediment control devices or the stormwater system on site to be cleaned, and require the responsible party to provide details of measures to prevent a recurrence. Response timeframes shall be implemented by the consent holder in accordance with the monitoring programme.
c. From 1 January 2025, require private properties that have an approved connection to the reticulated stormwater system, and which store or use hazardous substances on the property, to have a spill kit retained onsite, or spill mitigation measures in place, that are capable of absorbing or capturing and containing the quantity of hazardous substances that may be stored on site at any one time.

***Advice Note**: Nothing in this consent absolves a private property owner and private activity undertaken on any site from meeting other responsibilities under other legislation, standards, or regulation (including meeting requirements of the Hazardous Substances and New Organisms Act 1996 or any successor legislation with the purpose of preventing or managing the adverse effects of hazardous substances and new organisms).*

Construction-phase Stormwater Management

27 Discharges of construction-phase stormwater into the Rangiora reticulated stormwater system shall be via the best practicable erosion and sediment control measures for the site, as set out in the Canterbury Regional Council's Erosion and Sediment Control Toolbox for Canterbury (ESCT) or an equivalent industry guideline. If an equivalent industry guideline is used, details of the alternative methods used and an explanation of why they are more appropriate than those set out in the ESCT shall be provided to the WDC for approval prior to implementation.

28 The consent holder shall use reasonably practicable measures to require that an erosion and sediment control plan (ESCP) be prepared and implemented by the site owner or operator to manage all construction-phase stormwater discharges under this consent.

29 If water treatment chemicals are to be used to reduce the concentration of sediment in the discharge, the ESCP shall include, but not be limited to, the following information:

a. Bench testing requirements to determine the optimal dosing rates of water treatment chemicals;
b. A chemical treatment plan, including:
    i. Specific design details of the treatment system;
    ii. Results of the initial water treatment chemicals trial;
    iii. Details of optimum dosage (including assumptions); and
    iv. A spill contingency plan; and
c. Monitoring (including the pH of the discharged water), maintenance (including post-storm) and contingency programme (including a Record Sheet), including requirements for monitoring pH of the discharge.

30 Copies of ESCPs for sites discharging construction-phase stormwater under this consent shall be made available to the Canterbury Regional Council on request.

Monitoring Programme

31 Monitoring shall be undertaken in accordance with the Rangiora Stormwater Network Discharge Consent: Proposed stormwater Monitoring Programme dated 17 February 2021 which forms part of this resource consent, or any subsequent revisions to the Monitoring Programme that have been certified by the Canterbury Regional Council. The purpose of the Monitoring Programme shall be to investigate the effects of stormwater discharges from the Rangiora reticulated stormwater system on surface water quality, stream sediment quality and ecology of surface waterways, and soil quality and accumulation of contaminants within stormwater treatment facilities and determine whether compliance with the key limits and targets summarised in the Monitoring Programme Appendix 1: Receiving Environment Objectives (Urban Impact) is being achieved.

32 The Monitoring Programme, or any revisions to the Monitoring Programme, shall:

a. Be sufficient to detect any trends in stormwater quality, surface water quality, stream sediment quality, the ecology of surface waterways and soil quality within stormwater treatment facilities;
b. Be sufficient to measure compliance with the targets and limits set out in the "urban impact" sections of the programme set out in Schedule 1 to this consent;
c. Adopt any changes to relevant regional or national standards or guidelines for surface water, groundwater and/or soil or sediment quality.

33 Any amendments to the Monitoring Programme shall not replace the previous version until the Monitoring Programme has been certified by the Canterbury Regional Council, Regional Leader - Compliance Monitoring as complying with the requirements of condition (31) and (32).

Actions in response to monitoring

34 If the monitoring results identify that the objectives set out in condition (8) are not being met, WDC shall investigate whether this is due to the effects of stormwater discharges authorised under this resource consent by:

a. Following the steps set out in this consent, including with reference to the Stormwater Management Plan required by this consent, and actions specified in the "urban impact" sections of the Monitoring Programme;
b. Engaging with the Canterbury Regional Council about the investigation proposed;
c. Prioritising site investigations, if required, for areas with high levels of contaminants, or with sensitive or high value receiving environments;

Where adverse effects are a result of the discharges authorised by this consent (i.e. the objectives in condition (8) are not being met), WDC shall review its implementation and shall use all reasonably practicable measures to meet the objectives or achieve progressive improvements towards meeting the objectives in condition (8).

Recording and Reporting

35 An Annual Report shall be provided to the Canterbury Regional Council, Attention: Regional Leader - Compliance Monitoring and *Te Ngai Tuahuriri Runanga*. The report shall detail the following from the prior 12-month period:

a. Maintenance works undertaken in accordance with conditions (22) and (23).
b. Updates to the Monitoring Programme developed in accordance with condition (31), including the rationale for these changes.
c. Results of the monitoring carried out in that year in accordance with condition (31), in a format suitable for automated upload to the Canterbury Regional Council's water quality database, including:
    i. The name of the person(s) who collected the samples, the date and time the samples were collected; and
    ii. The rainfall data associated with stormwater sampling events, including, but not limited to, date, time, duration and rainfall depth of the storm event.
d. Interpretation of any long term or site-specific trends in surface water quality, stormwater quality, ecology, or soil quality, including comparisons to previous years' monitoring and reference to monitoring data for the other environmental factors in the stream health sections of the monitoring programme;

e. Interpretation of the significance and possible reasons for any change in long term or site-specific trends;
f. Report on the investigation undertaken and further actions and responses planned or undertaken in accordance with conditions (16) to (19).
g. Discussion of compliance with condition (8) and condition (14), and results of investigations undertaken in accordance with condition (34), including but not limited to:
    i. Documentation of, and possible reasons for, trigger value exceedances, and further action taken or proposed in response to exceedances, including a timeline for future actions;
    ii. Documentation of service requests indicating any flooding of dwelling houses described in condition (8)(a);
    iii. A summary of any remedial or improvement works carried out to improve the quality of, or improve the management of quantity of stormwater discharges in that year including any works planned or undertaken to address any flooding of dwelling houses described in condition 8(a); and
    iv. A summary of new stormwater systems vested to WDC during the preceding year which will discharge under this consent; and
    v. A description of any future stormwater system proposals, including retrofitting of existing stormwater systems, to improve the management of stormwater within the Rangiora reticulated stormwater system; and
    vi. Discussion of actions taken through the management of the stormwater discharges to protect and enhance mahinga kai species of value to *Te Ngai Tuahuriri Runanga, and any enhancement of mahinga kai areas.*
h. Any updated information as a result of further site investigations, including but not limited to the extent of or changes to catchment boundaries, groundwater levels, and a discussion of the implications of the updated information;
i. Details of site audits undertaken of sites with pollution prevention plans that discharge under this consent, including a summary of compliance and whether corrective actions have been undertaken;
j. A summary of sites that have been excluded from this resource consent in the last year, including an up to date version of the schedule of excluded sites;
k. A summary of sites discharging in accordance with this consent for which erosion and sediment control plans were received by WDC in the last year, including a summary of sites where WDC have been advised that water treatment chemicals have been used and the date(s) of their use;
l. Report on breaches of the Bylaw over the previous year which WDC is aware of.

Administration

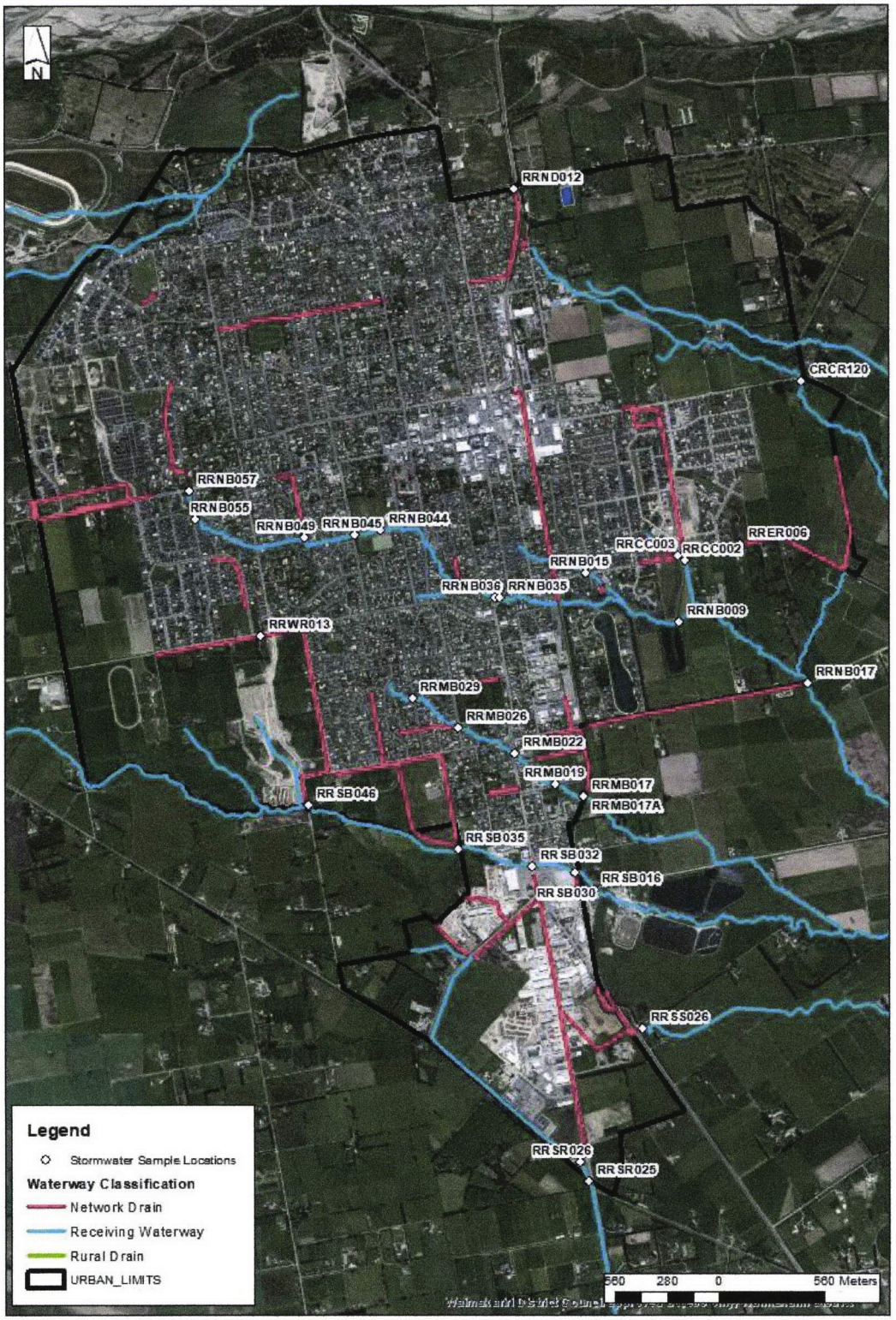
36 The Canterbury Regional Council may, once per year, on any of the last five days of May or November, serve notice of its intention to review the conditions of this consent for the purposes of:

a. Dealing with any adverse effect on the environment which has not been previously considered and which may arise from the exercise of this consent and which it is appropriate to deal with at a later stage; or
b. Complying with the requirements of a relevant rule in an operative regional plan; or
c. Ensuring that improvements to the quality of the stormwater discharge occur over the duration of this resource consent to reduce any adverse effect on the environment; or
d. Providing alternative Receiving Environment Objectives for water quality or quantity; or
e. Requiring the consent holder to adopt the best practicable option to remove or reduce any adverse effect on the environment; or
f. Requiring the consent holder to carry out monitoring and reporting instead of, or in addition to, that required by the consent in order to understand effects on the environment that have not been previously considered.

Issued at Christchurch on 18 May 2021

Canterbury Regional Council

Plan CRC184601A



CRC184601 – Schedule 1 – Receiving environment objectives (urban impact)

Category	Location of Sampling	Contaminant Type	Receiving environment objective	Reference / Source
Surface Water Sampling: Suspended Sediment	Major Discharge Point	Total Suspended Solids	50gm3	CLWRP spring fed - plains
Surface Water Sampling: Other Contaminants	In receiving waterway allowing for mixing zone- Schedule 5 CLWRP	Dissolved copper	< 0.0018 mg/L	CLWRP *spring fed – plains – Urban* Water 90% of the *ANZECC guideline*
		Dissolved Zinc	< 0.015 mg/L	
		pH	Shall be between 6.5 - 8.5	CLWRP, *section 16, schedule 5*
		Dissolved Reactive Phosphorous	< 0.016mg /L	CLWRP, *section 16, schedule 5*
		E.coli	95% of the samples should have less than 550 E. coli per 100 mL	CLWRP, *section 16, schedule 5*
		Total Ammoniacal Nitrogen	Depends on pH level	CLWRP, *Table S5C, Schedule 5*
Stream Bed Sediment	Receiving waterway bed sediment, deposition area	Total Copper	65 mg/kg dry weight	Refer Australia and New Zealand Guidelines for Fresh and Marine Water Quality Website
		Total Lead	50 mg/kg dry weight	
		Total Zinc	200 mg/kg dry weight	
		Polycyclic Aromatic Hydrocarbons	10 mg/kg dry weight	Refer Australia and New Zealand Guidelines for Fresh and Marine Water Quality Website *–Site specific adjustment of each PAH sample using Total Organic Carbon to compare with DGV*
		Fine sediment depth, % cover (<2mm)	Determine baseline, seek reducing trend	*"Bankside Visual Estimate of % cover"* and "*Assessing Sediment Depth in Hard Bottomed Streams*" protocols, published by Cawthron Institute

Schedule 2

Waimakariri District Council

STANDARD STORMWATER MAINTENANCE SCHEDULE

Task	Minimum frequency of maintenance visit					
	Sumps			Swales		Infiltration and dry basins
	Key sumps	Non-key sumps	To soakage chambers	Urban	Rural-residential	
Removal of debris, and litter likely to adversely affect the operation of the system, within 10 working days of the maintenance visit	Yearly	Two Yearly	Yearly	6 monthly	Yearly	6 monthly
Removal of sediment likely to adversely affect the operation of the system, within 10 working days of the maintenance visit	Yearly	Two Yearly	Yearly	N/A	N/A	N/A
Removal of hydrocarbons that are visible over a total area of greater than 0.5 square metres (swales and basins) or a layer greater than 5 millimetres thick (sumps), within 10 working days of the maintenance visit	N/A	N/A	6 monthly	6 monthly	Yearly	6 monthly
Repair or stabilisation of erosion and scour, within 20 working days of the maintenance visit	N/A	N/A	N/A	6 monthly	Yearly	6 monthly
Replanting, where bare or patchy soil cover or sediment build up is greater than 10 square metres, or a total of five percent of the area of the device, whichever is the lesser, within 10 working days of the maintenance visit	N/A	N/A	N/A	6 monthly	Yearly	6 monthly
Weed control	N/A	N/A	N/A	6 monthly	Yearly	6 monthly

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR INFORMATION

FILE NO and TRIM NO:	WAT-03 / 231107178842
REPORT TO:	UTILITIES AND ROADING COMMITTEE
DATE OF MEETING:	21 November 2023
AUTHOR(S):	Caroline Fahey, Water & Wastewater Asset Manager
SUBJECT:	Water Quality and Compliance Annual Report 2022-23
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report is to update the Utilities and Roading Committee on the results of the annual water quality and compliance review for the 2022-23 compliance year.

1.2. An annual review has been undertaken since the 2018-19 compliance year of water quality and compliance results. This 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) for the 2022-23 compliance year.

1.3. Due to the new Drinking Water Assurance Rules (DWQAR) coming into effect in November 2022 and Taumata Arowai's requirement for water suppliers to start reporting on the new DWQAR from 1 January 2023, the assessment was completed in two parts. The first covering the old Drinking Water Standards New Zealand (DWSNZ) for the period 1 July 2022 – 31 December 2022 and the second covering the new Drinking Water Quality Assurance Rules (DWQAR) for the period 1 January 2023 - 30 June 2023.

1.4. The new DWQAR are much more stringent than the old Drinking Water Standards New Zealand (DWSNZ) 2005 (Revised 2018). The way in which treatment plant and distribution zone compliance can be gained under the new DWQAR is more challenging than under the previous 2018 DWSNZ 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. It also means that for schemes which have no bacterial treatment (i.e. the currently unchlorinated schemes that do not have UV treatment), compliance cannot be achieved either, until UV projects are completed.

- 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).

1.5. There are numerous other rules in addition to the ones described above also, the above descriptions reflect only the rules that have been reported against for the first period. Other rules are required to be reported against on an annual basis (after the 2023 calendar year has been completed) and will be the subject of a future report.

1.6. For the compliance period assessed under the new DWQAR, there were a number of non-compliances across all supplies primarily due to the following reasons:

1. Lack of protozoa barrier to meet protozoal compliance.

2. Lack of chlorination to provide residual disinfection in the reticulation.

3. Missed samples due to scheduling and handling error which resulted in inability to demonstrate compliance.

4. 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.

1.7. The primary reason for the non-compliances listed above is due to the DWQAR being imposed with no lead-in time to allow Councils to respond and remain compliant during implementation of the upgrades. The Waimakariri District Council has responded as soon as practicable, and the Council had brought forward funding for UV treatment upgrades with urgency to allow implementation. Chlorination was implemented to a timeframe agreed with the regulator.

1.8. Waimakariri District is fortunate to have high quality source water that have previously been considered as secure under the old DWSNZ. The risk to our water supplies has not changed, however the rules have changed. Staff do not have any concerns regarding the safety of our water and the public are being supplied potable water of a high quality.

1.9. Staff have identified the following key improvement actions that will address the number of non-compliances received:

- Implement chlorination for all unchlorinated supplies. This is currently underway and expected to be fully implemented by the end of November 2023.

- Implement UV treatment at various sites. This is currently underway with UV systems expected to be installed by June 2024 for Rangiora, Kaiapoi, Oxford Urban/Rural No. 2, Oxford Rural No. 1 and Woodend-Pegasus. West Eyreton and Ohoka are expected to be completed by June 2025.

- 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.

- Change the methodology for demonstrating compliance in the distribution zone, i.e. instead of using continuous monitoring data which is vulnerable to system outages and equipment failure causing data loss or inaccurately represented data, revert to manual grab sampling instead. This has already been implemented and will have a cost implication due to additional site attendance by staff to achieve this.

- 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.

1.10. The following summarises the status of the 2022-23 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 technicial non-compliance due to data capture issues.

Scheme	Compliance Achieved		Steps to Achieve Compliance	Date Compliance Expected
	Previous DWSNZ	Current DWQAR		
Ashley Gorge	No	No	Connect to Oxford Rural No.2	November 2023
Cust	Yes	No	Nil. UV was installed May 2023.	Currently fully compliant
Garrymere	No	Yes	Nil.	Currently fully compliant
Kaiapoi	Yes	No	Install UV.	June 2024
Mandeville	No	No	Implement Scada improvements.	June 2024
Ohoka	Yes	No	Install UV.	June 2025
Oxford Rural No.1	Yes	No	Install UV.	June 2024
Oxford Urban & Rural No.2	Yes	No	Install UV.	June 2024
Woodend & Pegasus	No	No	Install UV.	June 2024
Rangiora	No	No	Install UV.	June 2024
Waikuku Beach	Yes	No	Nil. Chlorine recently turned on.	November 2023
West Eyreton	Yes	No	Install UV.	June 2025

Attachments:

i. i. External Audit Report of Drinking Water Standards Compliance (231109179948)

2. RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) **Receives** Report No. 231107178842.

(b) **Notes** that due to the new Drinking Water Assurance Rules (DWQAR) coming into effect in November 2022 and Taumata Arowai's requirement for water suppliers to start reporting on the new DWQAR from 1 January 2023, the assessment was completed in two parts. The first covering the old Drinking Water Standards New Zealand (DWSNZ) for the period 1 July 2022 – 31 December 2022 and the second covering the new Drinking Water Quality Assurance Rules (DWQAR) for the period 1 January 2023 - 30 June 2023.

(c) **Notes** that the new DWQAR are much more stringent than the old Drinking Water Standards New Zealand (DWSNZ) 2005 (Revised 2018). The way in which treatment plant and distribution zone compliance can be gained under the new DWQAR is more challenging than under the now redundant 2018 DWSNZ.

(d) **Notes** that for the compliance period assessed under the new DWQAR, there were a number of non-compliances across all supplies and staff have identified a number of improvement actions that will address the number of non-compliances received. The main non-compliances are being addressed with chlorination now implemented on all urban water supplies, and ongoing UV treatment projects to provide protozoa compliance (to completed by June 2024 for 6 supplies and by June 2025 for remaining 2 supplies). The other non-compliances are technical non-compliances (due to sampling and data capture issues which will require ongoing process improvement and equipment/system upgrades to address).

(e) **Notes** that Council's water supplies will not be fully compliant with the new DWQAR until June 2025 when the last 2 water supplies have UV treatment installed. Even then there is still a risk of technical non-compliances due to data capture issues.

(f) **Notes** that despite the number of non-compliances received across all supplies for the compliance period assessed under the new DWQAR, in terms of a water safety and risk point of view, the risk profile of the water supplies had not changed from the previous compliance periods. The new DWQAR require a much higher level of reporting (with very low threshold for data error) to be completed by the water supplier to demonstrate compliance. There is a risk that this will present a negative public perception and result in reputational damage to the Council as a water supplier.

(g) **Notes** that the new DWQAR were imposed with no lead-in time to allow Waimakariri District Council to implement the UV treatment upgrades and the Council has implemented this programme as soon as practicable.

(h) **Notes** that the water regulator Taumata Arowai have the authority to prosecute Council for non-compliances with the DWQAR under the Water Services Act 2021. However, Council have an agreed timeframe in place with Taumata Arowai for implementation of both chlorination and UV treatment to meet bacteria and protozoa compliance and residual disinfection requirement for drinking water.

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

(j) **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).

3.2. An annual review of Waimakariri District Council's water supply performance was undertaken by an independent drinking water compliance specialist (Matt Molloy Consulting Ltd) for the 2022-23 compliance year.

3.3. Even though the new DWQAR came into effect in November 2022, Taumata Arowai only required water suppliers to report against the new DWQAR from 1 January 2023. Therefore for the period of 2022-23, water compliance of all 12 Council water supplies was assessed against both the old DWS and the new DWQAR.

3.4. The assessment was completed in two parts, the first covered the old DWSNZ for the period 1 July 2022 – 31 December 2022 and the second covered the new DWQAR for the period 1 January 2023 - 30 June 2023.

4. ISSUES AND OPTIONS

Compliance status for period 1 July 2022 to 31 December 2022 – Assessed against DWSNZ

4.1. Table 1 below summarises the compliance status for the 12 water supplies for the period 1 July 2022 – 31 December 2022, assessed against the old DWSNZ.

Table 1: Summary of Results for 1 July 2022 – 31 December 2022 Compliance Period

Water Supply	Compliance Achieved					
	Treatment Plant				Distribution zone	
	Plant	Bacterial	Protozoa	Radiological	Zone	Bacterial
Ashley Gorge	Ashley Gorge	Yes	No	Not applicable	Ashley Gorge	Yes
Cust	Cust	Yes	Yes	Yes	Cust	Yes
Garrymere	Garrymere	Yes	No	Not applicable	Garrymere	Yes
Kaiapoi	Darnley Square	Yes	Yes	Yes	Kaiapoi	Yes
	Peraki Street	Yes	Yes	Yes		
Mandeville	Two Chain Road	Yes	No	Yes	Mandeville	Yes
Ohoka	Ohoka	Yes	Yes	Yes	Ohoka	Yes
Oxford Rural No.1	McPhedrons Road	Yes	Yes	Yes	Oxford Rural No.1	Yes
	Rockford Road Deep Well	Yes	Yes	Yes		
Oxford Urban & Rural No.2	Domain Rd	Yes	Yes	Yes	Oxford Rural No.2	Yes
					Oxford Urban	Yes
Woodend & Pegasus	Pegasus	No*	No*	Yes	Pegasus	Yes
					Woodend	Yes
Rangiora	South Belt	No*	No*	Yes	Rangiora	Yes
Waikuku Beach	Kings Ave	Yes	Yes	Yes	Waikuku Beach	Yes
	Waikuku Campground	Yes	Yes	Yes		
West Eyreton	West Eyreton	Yes	Yes	Yes	Poyntzs Rd	Yes
					Summerhill	Yes
					West Eyreton	Yes

**Note that the non-compliances are due to a 5-yearly age sample not being taken within the required timeframe that prevented the supplies from demonstrating secure bore status. This is a technical non-compliance and does not accurately reflect the safety and quality of the drinking water.*

4.2. The following key points can be made about the above:

Bacterial Compliance of Treatment Plants

4.2.1. Bacterial compliance of the treatment plants is demonstrated by taking the required number of *E. coli* samples in accordance with a set of parameters defined in the DWSNZ, and the required amount of those samples being free of *E. coli*.

4.2.2. All samples were taken as programmed, and all were absent of *E. coli*. .The only issue was related to the 5-yearly age sample for both Rangiora and Woodend-Pegasus supplies not being taken within the required timeframe. This led to secure bore status not being proven for all bores supplying these schemes. Therefore they were determined not to comply with the bacterial requirements. This is however a technical non-compliance and does not accurately reflect the safety of the drinking water. Processes are being implemented to ensure that all future samples are reliably collected and processed by the laboratory.

4.2.3. It is noted that the way in which bacterial compliance of treatment plants can be gained under the new DWQAR is more challenging than under the now redundant 2018 DWSNZ, which is covered in the next section of the report.

Protozoal Compliance of Treatment Plants:

4.2.4. The schemes with secure sources continued to achieve protozoal compliance (Rangiora, Kaiapoi, Woodend, Pegasus, Cust, West Eyreton, Oxford Urban-Rural No.2, Ohoka) apart from Rangiora and Woodend-Pegasus. This was due to the same issue with the 5-yearly age sample explained above.

4.2.5. For the schemes that have treatment systems for protozoa (Mandeville, Waikuku Beach, Garrymere), only Waikuku Beach was assessed as achieving full compliance for the compliance period.

4.2.6. Both Mandeville and Garrymere were assessed as not achieving full compliance for the period due to short duration missing data events during plant upgrade at these sites which led to the supplies not being able to demonstrate compliance for the duration. The assessor (Matt Molloy) who undertook a review of Council's DWSNZ compliance noted that these were technical non-compliance issues that did not a present a safety risk to the quality of the drinking water.

4.2.7. The Ashley Gorge water supply did not achieve protozoal compliance due to it not having any form of protozoal barrier in place, with chlorine being the only form of treatment in place. Work is underway to supply Ashley Gorge from the Oxford Rural No.2 water supply which will be completed in November 2023, meaning the existing treatment plant will be abandoned. This would effectively mean that Ashley Gorge stops being a water supply in its own right, and is just another property connected to the Oxford Rural No.2 supply, therefore addressing the current non-compliance for this supply.

Bacterial Compliance of Distribution Zones:

4.2.8. Bacterial compliance was achieved at all WDC distribution zones (or reticulation) within the district that operated during the compliance period.

4.2.9. It is noted that the way in which bacterial compliance of distribution zones can be gained under the new DWQAR) is more challenging than under the now redundant 2018 DWSNZ, which is covered in the next section of the report.

Compliance status for period 1 January 2023 to 30 June 2023 – Assessed against the new DWQAR

4.3. Table 2 below summarises the compliance status for the 12 water supplies for the period 1 January 2023 – 30 June 2023, assessed against the new DWQAR.

- Note that the Rangiora, Kaiapoi, Woodend-Pegasus, Waikuku Beach, Oxford Urban/Rural No.2, Oxford Rural No.1, Cust, Mandeville, Ohoka, West Eyreton/Summerhill/Poyntzs treatment plants have a compliance monitoring period of 1 day and have been assessed over 181 days, so the result is recorded as how many days out of 181 days the supply was compliant.

- Note that the Ashley Gorge and Garrymere treatment plant have a compliance monitoring period of one month and have been assessed over 6 months, so the result is recorded as how many months out of 6 months the supply was compliant.

- Note that all distribution zones have a compliance monitoring period of one month and have been assessed over 6 months, so the result is recorded as how many months out of 6 months the supply was compliant.

Table 2: Summary of Results for 1 January 2023 – 30 June 2023 Compliance Period

Water supply	**Compliance Achieved**					
	Treatment plant compliance			**Distribution zone compliance**		
	Plant	**Bacterial**	**Protozoa**	**Zone**	**Bacterial**	**Residual disinfectant**
Ashley Gorge	Ashley Gorge	1/6	0/6	Ashley Gorge	6/6	6/6
Cust	Cust	164/181	61/181	Cust	6/6	6/6
Garrymere	Garrymere	6/6	6/6	Garrymere	6/6	6/6
Kaiapoi	Darnley Square	40/181	0/181	Kaiapoi	6/6	4/6
	Peraki Street	80/181	0/181			
Mandeville	Two Chain Road	180/181	180/181	Mandeville	6/6	2/6
Ohoka	Ohoka	150/181	0/181	Ohoka	6/6	5/6
Oxford Rural No.1	McPhedrons Road	0/181	0/181	Oxford Rural No.1	6/6	0/6
	Rockford Road Deep Well	0/181	0/181			
Oxford Urban & Rural No.2	Domain Rd	0/181	0/181	Oxford Rural No.2	6/6	1/6
				Oxford Urban	6/6	0/6
Woodend & Pegasus	Pegasus	177/181	0/181	Pegasus	6/6	6/6
				Woodend	6/6	6/6
Rangiora	South Belt	0/181	0/181	Rangiora	6/6	0/6
Waikuku Beach	Kings Ave	181/181	181/181	Waikuku Beach	6/6	0/6
	Campground	181/181	181/181			
West Eyreton	West Eyreton	4/181	0/181	Poyntzs Rd	5/6	3/6
				Summerhill	5/6	4/6

				West Eyreton	5/6	3/6

4.4. 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. It also means that for schemes which have no bacterial treatment (i.e. the currently unchlorinated schemes that do not have UV treatment), compliance cannot be achieved either, until UV projects are completed.

- 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).

4.5. There are numerous other rules in addition to the ones described above also, the above descriptions reflect only the rules that have been reported against for the first period. Other rules are required to be reported against on an annual basis (after the 2023 calendar year has been completed) and will be the subject of a future report.

4.6. The table below summarises the main reasons for the non-compliances for each water supply in the 1 January 2023 – 30 June 2023 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.

4.7. The key improvement actions are:

5. Implement chlorination for all unchlorinated supplies. This is currently underway and expected to be fully implemented by the end of November 2023.Implement UV treatment at various sites. This is currently underway with UV systems expected to be installed by June 2024 for Rangiora, Kaiapoi, Oxford Urban/Rural No. 2, Oxford Rural No. 1 and Woodend-Pegasus. West Eyreton and Ohoka are expected to be completed by June 2025.

6. 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.

7. Change the methodology for demonstrating compliance in the distribution zone, i.e. instead of using continuous monitoring data which is vulnerable to system outages and equipment failure causing data loss or inaccurately represented data, revert to manual grab sampling instead. This has already been implemented and will have a cost implication due to additional site attendance by Staff to achieve this.

8. 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-compliances	Improvements actions required
Ashley Gorge	Plant: Periods of low chlorine recorded in manual samples taken at the treatment plant in January. Elevated turbidity following wet weather and low source water pH readings were also recorded at the treatment plant.	No further action required as this supply is being connected to the Oxford Rural No.2 supply, which will be completed in November 2023.
Cust	Plant: Complied most of the time at the treatment plant using chlorine other than 17 days during March and April. The non-compliances were created when works relating to the treatment upgrade were being carried out while the plant was still in operation.	UV treatment was installed at the Cust plant in May 2023 and since then, full compliance has been demonstrated for bacteria and protozoa.
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 bacteria and protozoa treatment. The UV treatment is expected to be operational by the end of June 2024. Kaiapoi will continue to not achieve protozoa plant compliance until the UV treatment has been installed.
	Distribution: Darnley was not chlorinated for 2 months which led to the distribution non-compliance.	Chlorination will continue at Kaiapoi which will ensure that the distribution compliance will be met.
Mandeville	Plant: Data was not able to be recovered for a single day due to SCADA failure and inability to recover all data. This would be considered a technical non-compliance and does not accurately reflect 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: There were seven periods in January and February ranging from 3 minutes to 11 hours duration where the chlorine recorded was 0.17 to 0.19 mg/L and a period of 40 minutes in March and four and half hours in May where data loss prevented zone	Instead of using continuous monitoring data to demonstrate compliance which is vulnerable to system outages and equipment failure causing data loss or inaccurately represented data, manual grab sampling will instead be used to demonstrate distribution compliance.

	compliance from being achieved.	
Ohoka	<u>Plant:</u> 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. These are technical issues and does not accurately reflect the safety of the water.	UV treatment project has been planned for the Ohoka plant which will enable the supply to achieve both bacteria and protozoa treatment. The UV treatment is expected to be operational by the end of June 2025. Ohoka will continue to not achieve bacteria and protozoa plant compliance until the UV treatment has been installed.
	<u>Distribution:</u> A chlorine sample was not taken within the required timeframe which counted as a non-compliance.	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.
Oxford Rural No.1	<u>Plant:</u> This supply has two treatment plants McPhedrons Rd and Rockford Rd Deep Well, both of these have chlorine in place, but no reservoir at either plant means that plant is unable to comply with the chlorine contact time requirements. There is also no protozoa barrier at these plants due to their previous designation as secure. Problems with the control system caused the well pump to stop and start briefly causing instability in the chlorine dosing system, explaining short periods of one to five minutes duration of low chlorine less than 0.1 mg/L were recorded on many (range of two to 20 plus) occasions on 10+ days each month at the McPhedrons Road treatment plant and a SCADA data loss issue of one and half hours on the 30th April meant chlorine compliance both at the treatment plant and the distribution zone was not achieved. The incident concerning the bore source meant the plant was unable to meet the turbidity compliance requirements from the 31st May. These are technical issues and do not accurately reflect the safety of the water	UV treatment project is underway this financial year at McPhedrons plant which will enable the supply to achieve both bacteria and protozoa treatment. The UV treatment is expected to be operational by the end of June 2024. The supply will continue to not achieve bacteria and protozoa plant compliance until the UV treatment has been installed.
	Distribution: Short periods of low FAC recorded and SCADA data loss issues caused by both infrastructure failures and water source incident with precautionary BWN issue from 31 May.	Instead of using continuous monitoring data to demonstrate compliance which is vulnerable to system outages and equipment failure causing data loss or inaccurately represented data, manual grab sampling will instead be used to demonstrate distribution compliance.
Oxford Urban & Rural No.2	<u>Plant:</u> The Domain Rd sources feed into the Domain Rd treatment plant for both Oxford Urban and Oxford Rural No.2 distribution zones, so this was considered the primary plant for both zones. The Oxford Urban distribution zone fulfilled the bacterial compliance	UV treatment project is underway this financial year at Domain Road plant which will enable the supply to achieve both bacteria and protozoa treatment. The UV treatment is expected to be operational by the end of June 2024. The supply will continue to not achieve

	monitoring requirements but was unchlorinated for the entire compliance period. However, once leaving the Domain Rd treatment plant the water also travels out to the Oxford Rural No. 2 distribution zone where it is chlorinated, during the compliance period the water was chlorinated at the Bay Rd booster pump station. The Oxford Rural No.2 zone had short term instances of FAC recorded due to erratic signals from the chlorine analyser and SCADA data loss so could not reliably demonstrate a chlorine residual. There is also no protozoa barrier at this plant due to its previous designation as secure.	bacteria and protozoa plant compliance until the UV treatment has been installed.
	<u>Distribution:</u> The Oxford Urban zone is unchlorinated.	The Oxford urban zone is now chlorinated and will be able to achieve distribution zone compliance. Also instead of using continuous monitoring data to demonstrate compliance which is vulnerable to system outages and equipment failure causing data loss or inaccurately represented data, manual grab sampling will instead be used to demonstrate distribution compliance.
Woodend & Pegasus	<u>Plant:</u> On the 3rd of February a period of low chlorine of 0.17 to 0.19 mg/L was recorded following a chlorine dosing pump failure, site works on the 1st and 29th of March meant the chlorine analyser was unable to provide data causing four periods from one to one and half hours duration and a SCADA data outage of four hours on the 30th April. 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 project is underway this financial year at Pegasus plant which will enable the supply to achieve both bacteria and protozoa treatment. The UV treatment is expected to be operational by the end of June 2024. The supply will continue to not achieve bacteria and protozoa plant compliance until the UV treatment has been installed.
Rangiora	<u>Plant:</u> Was not treated during the compliance period, so other than the microbiological samples required from the zone, compliance was not demonstrated. There is also no protozoa barrier at these plants due to their previous designation as secure.	UV treatment project is underway this financial year at South Belt plant which will enable the supply to achieve both bacteria and protozoa treatment. The UV treatment is expected to be operational by the end of June 2024. The supply will continue to not achieve bacteria and protozoa plant compliance until the UV treatment has been installed.
	Distribution: The supply is unchlorinated.	The supply will be chlorinated from 14th November 2023 which will achieve distribution zone compliance.

Waikuku Beach	Distribution: Waikuku Beach is unchlorinated.	The Waikuku Beach supply is now chlorinated and will be able to achieve distribution zone compliance.
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 protozoa treatment. The UV treatment is expected to be operational by the end of June 2025. West Eyreton will continue to not achieve bacteria and protozoa plant compliance until the UV treatment has been installed.
	Distribution: Five samples were missed in the zone due to a scheduling error and a further sample was missed in May. Four periods of one-two minutes duration of chlorine less than 0.1 mg/L were also recorded at the Poyntzs Rd sites during January, February and March. Infrastructure failure at the West Eyreton treatment plant caused short term periods of low chlorine on two days in January and February ranging from four to 20 minutes duration. SCADA data loss was also noted on 21st January (power outage for 2 hours), 30th April-1st May (SCADA outage for six hours) and 22nd June (power outage for seven hours), leading to further non-compliance. These are technical issues and do not accurately reflect the safety of the water.	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. Also instead of using continuous monitoring data to demonstrate compliance which is vulnerable to system outages and equipment failure causing data loss or inaccurately represented data, manual grab sampling will instead be used to demonstrate distribution compliance.

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.

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

5. COMMUNITY VIEWS

5.1. **Mana whenua**

5.2. 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.

5.3. **Groups and Organisations**

5.4. 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.

5.5. **Wider Community**

5.6. 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. CONTEXT

7.1. **Consistency with Policy**

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

7.2. **Authorising Legislation**

The Health (Drinking-water) Amendment Act and Water Services Act are relevant in this.

7.3. Consistency with Community Outcomes

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

Core utility services are provided in a timely and sustainable manner:

- *Council sewerage and water supply schemes, and drainage and waste collection services are provided to a high standard.*

7.4. Authorising Delegations

No delegation is required to receive this report.

Matt Molloy Consulting Ltd
Environmental and Public Health Consultant

8 November 2023

Waimakariri District Council
P O Box 1005
RANGIORA 7440

Attention:
Hayley Proffit

Review of Waimakariri District Councils water supply performance against the Drinking Water Standards for New Zealand 2005 (Revised 2018) [DWSNZ], and the Drinking Water Quality Assurance Rules 2022 [DWQAR], for the period 1 July 2022 – 30 June 2023

The assessments were undertaken by Matt Molloy, an independent drinking water compliance specialist. The assessment was done in two parts, the first covering the DWSNZ for the period 1 July 2022 – 31 December 2022. The second assessment covered the DWQAR for the period 1 January 2023 – 30 June 2023.

The assessments under the DWSNZ followed the procedure previously employed by Drinking Water Assessors (DWAs) prior to the establishment of the new regulator, Taumata Arowai in November 2021. The system was referred to as "DWA Function 1: Assessing drinking water supplier compliance with Drinking Water Standards New Zealand 2005/18". The DWSNZ 2005(Revised 2018) Compliance Recording Sheet is the same as that previously used by DWAs in the South Island. The assessment reviewed overall (both treatment plant and distribution zone) compliance against Section 3 (Compliance and Transgressions), Section 4 (Bacterial Compliance), Section 5 (Protozoal Compliance) and Section 9 (Radiological Compliance) of the DWSNZ.

The assessments under the DWQAR followed a similar procedure that is used for the DWSNZ, 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 sections: Bacterial compliance (Section 4) and Protozoal compliance (Section 5). 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. However, it is appropriate to report on these if the supplier has provided the information as they do affect compliance.

Taumata Arowai receive monthly and 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.

The assessment covered all WDCs treatment plants and distribution zones. Brief reports describing the process and results for the DWSNZ and DWQAR assessments are attached to this letter.

Each treatment plant and distribution zone result is summarised in the tables below. The first table contains the results against the DWSNZ and the second table the results against the DWQAR. The DWQAR assessment has reported on the compliance monitoring periods and each one being met. This is either the number of days out of 181 days or the number of months out of 6 months. This acknowledges the actual compliance and shows how close many supplies were to complying.

Drinking Water Standards for New Zealand 2005 (Revised 2018)

The outcome for each treatment plant and distribution zone is summarised in the table below. This is for the period 1 July 2022 – 31 December 2022.

Water Supply	Treatment Plant				Distribution zone	
	Treatment Plant	Bacterial	Protozoa	Radiological	Distribution zone	Bacterial
Ashley Gorge	Ashley Gorge	√	X	n/a	Ashley Gorge	√
Cust	Cust	√	√	√	Cust	√
Garrymere	Garrymere	√	X[1]	n/a	Garrymere	√
Kaiapoi	Darnley Square	√	√	√	Kaiapoi	√
	Peraki Street	√	√	√		
Mandeville	Two Chain Road	√	X[1]	√	Mandeville	√
Ohoka	Ohoka	√	√	√	Ohoka	√
Oxford Rural No.1	McPhedrons Road	√	√	√	Oxford Rural No.1	√
	Rockford Road Deep Well	√	√	√		
Oxford Urban & Rural No.2	Domain Rd	√	√	√	Oxford Rural No.2	√
					Oxford Urban	√
Woodend & Pegasus	Pegasus	X[2]	X[2]	√	Pegasus	√
					Woodend	√
Rangiora	South Belt	X[2]	X[2]	√	Rangiora	√
Waikuku Beach	Kings Ave	√	√	√	Waikuku Beach	√
	Waikuku Campground	√	√	√		
West Eyreton	West Eyreton	√	√	√	Poyntzs Rd	√
					Summerhill	√
					West Eyreton	√

- A tick indicates full compliance.
- A cross indicates that one or more days did not meet the DWSNZ requirements.
- [1] The Garrymere and Mandeville treatment plants were recorded as non-compliant, however this relates to short duration missing data events during plant upgrades. These are more technical non-compliances and do not accurately reflect the safety of the drinking water.
- [2] Secure bore status was not proven for all bores supplying Rangiora and Pegasus/Woodend, therefore they are determined not to comply with bacterial and protozoa requirements. This was due to a 5-yearly age sample not being taken within the required timeframe. This is a technical non-compliance and does not accurately reflect the safety of the drinking water.

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 January 2023 – 30 June 2023.

Water supply	Treatment plant compliance			Distribution zone compliance		
	Treatment plant	Bacterial	Protozoa	Distribution zone	Bacterial	Residual disinfectant
Ashley Gorge	Ashley Gorge	1/6	0/6	Ashley Gorge	6/6	6/6
Cust	Cust	164/181	61/181	Cust	6/6	6/6
Garrymere	Garrymere	6/6	6/6	Garrymere	6/6	6/6
Kaiapoi	Darnley Square	40/181	0/181	Kaiapoi	6/6	4/6
	Peraki Street	80/181	0/181			
Mandeville	Two Chain Road	180/181	180/181	Mandeville	6/6	2/6
Ohoka	Ohoka	150/181	0/181	Ohoka	6/6	5/6
Oxford Rural No.1	McPhedrons Road	0/181	0/181	Oxford Rural No.1	6/6	0/6
	Rockford Road Deep Well	0/181	0/181			
Oxford Urban & Rural No.2	Domain Rd	0/181	0/181	Oxford Rural No.2	6/6	1/6
				Oxford Urban	6/6	0/6
Woodend & Pegasus	Pegasus	177/181	0/181	Pegasus	6/6	6/6
				Woodend	6/6	6/6
Rangiora	South Belt	0/181	0/181	Rangiora	6/6	0/6
Waikuku Beach	Kings Ave	181/181	181/181	Waikuku Beach	6/6	0/6
	Campground	181/181	181/181			
West Eyreton	West Eyreton	4/181	0/181	Poyntzs Rd	5/6	3/6
				Summerhill	5/6	4/6
				West Eyreton	5/6	3/6

- Treatment plants using T3 rules have a compliance monitoring period of 1 day and have been assessed over 181 days, so the result is recorded as how many days out of 181 days the supply was compliant.
- Treatment plants using T2 rules have a compliance monitoring period of one month and have been assessed over 6 months, so the result is recorded as how many months out of 6 months the supply was compliant.
- Distribution zones using D3 and D2 have a compliance monitoring period of one month and have been assessed over 6 months, so the result is recorded as how many months out of 6 months the supply was compliant.
- It is possible that with the submission of an annual report in January 2024 individual compliance or the overall result may change.

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

Ashley Gorge: Had periods of low chlorine recorded in manual samples taken at the treatment plant in January, however chlorine levels in the supply reticulation were maintained at a satisfactory concentration. Elevated turbidity following wet weather and low source water pH readings were recorded at the treatment plant. Distribution zone fully complied.

Cust: Complied most of the time at the treatment plant using chlorine other than 17 days during March and April. The non-compliances were created when works relating to the treatment upgrade were being carried out while the plant was still in operation. Since UV was installed in May, full compliance has been demonstrated. Distribution zone fully complied.

Kaiapoi: 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 DWS. These are technical issues and do not accurately reflect a change to the safety of the water.

Mandeville: Data was not able to be recovered for a single day during the compliance period, UV was met for 180/181 days. This would be considered a technical non-compliance. There were seven periods in January and February ranging from 3 minutes to 11 hours duration where the FAC recorded was 0.17 to 0.19 mg/L and a period of 40 minutes in March and four and half hours in May where data loss prevented zone compliance being achieved.

Ohoka: Chlorine in place at plant, but inadequate contact time to demonstrate compliance. There is also no protozoa barrier at this plant due to its previous designation as secure. These are technical issues and do not accurately reflect a change to the safety of the water.

Oxford Rural No.1: This supply has two treatment plants McPhedrons Rd and Rockford Rd Deep Well, both of these have chlorine in place, but no reservoir at either plant means that plant is unable to comply with the chlorine contact time requirements. There is also no protozoa barrier at these plants due to their previous designation as secure. Problems with the control system caused the well pump to stop and start briefly causing instability in the chlorine dosing system, explaining the short periods of one to five minutes duration of low chlorine less than 0.1 mg/L being recorded on many (range of two to 20 plus) occasions on 10+ days each month at the McPhedrons Road treatment plant. And a SCADA data loss issue of one and half hours on the 30th April meant chlorine compliance both at the treatment plant and the distribution zone was not achieved. The incident concerning the bore source meant the plant was unable to meet the turbidity compliance requirements from the 31st May. These are technical issues and do not accurately reflect the safety of the water.

Oxford Urban and Rural No.2: The Domain Rd sources feed into the Domain Rd treatment plant for both Oxford Urban and Oxford Rural No.2 distribution zones, so this was considered the primary plant for both zones. The Oxford Urban distribution zone fulfilled the bacterial compliance monitoring requirements but was unchlorinated for the entire compliance period. This was following an agreement with Taumata Arowai that the water could remain unchlorinated while Taumata Arowai were processing the chlorine exemption application for the drinking-water supply. However, once leaving the Domain Rd treatment plant the water also travels out to the Oxford Rural No. 2 distribution zone where it is chlorinated, during the compliance period the water was chlorinated at the Bay Rd booster pump station. The Oxford Rural No.2 zone had short term instances of FAC recorded due to erratic signals from the chlorine analyser and SCADA data loss so could not reliably demonstrate a chlorine residual. There is also no protozoa barrier at this plant due to its previous designation as secure.

Woodend & Pegasus: Water for both zones is chlorine treated at the Pegasus plant. On the 3rd of February a period of low chlorine of 0.17 to 0.19 mg/L was recorded following a chlorine dosing pump failure, site works on the 1st and 29th of March meant the chlorine analyser was unable to provide data causing four periods from one to one and half hours duration and a SCADA data outage of four hours on the 30th April lead to treatment plant non-compliance. There is also no protozoa barrier at these

plants due to their previous designation as secure. These are technical issues and do not accurately reflect the safety of the water.

Rangiora: Was not treated during the compliance period, so other than the microbiological samples required from the zone, compliance was not demonstrated. Again, this is due to the previous designation as secure and the fact an agreement with Taumata Arowai was requested that the water could remain unchlorinated while Taumata Arowai were processing the chlorine exemption application for the drinking-water supply.

West Eyreton: Chlorine in place at plant, but inadequate contact time to demonstrate compliance. There is also no protozoa barrier at this plant due to its previous designation as secure. Five samples were missed in the zone due to a scheduling error and a further sample was missed in May. Four periods of one-two minutes duration of chlorine less than 0.1 mg/L were also recorded at the Poyntzs Rd sites during January, February and March. Infrastructure failure at the West Eyreton treatment plant caused short term periods of low chlorine on two days in January and February ranging from four to 20 minutes duration. SCADA data loss was also noted on 21st January (power outage for 2 hours), 30th April-1st May (SCADA outage for six hours) and 22nd June (power outage for seven hours), leading to further non-compliance. These are technical issues and do not accurately reflect the safety of the water.

Waikuku Beach: Both the Kings Ave and Waikuku Campground water treatment plants fully complied with the UV requirements of the DWQAR. The Waikuku Beach distribution zone remained unchlorinated following an agreement with Taumata Arowai that the water could remain unchlorinated while Taumata Arowai were processing the chlorine exemption application for the drinking-water supply.

Garrymere: The treatment plant and distribution zone fully complied for the compliance period.

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

Kind regards

Matt Molloy
Drinking Water Compliance Specialist
Matt Molloy Consulting Ltd

Copy confirmationssouthern@auditnz.parliament.nz

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-22-04, DRA-16-05 / 231109180290
REPORT TO:	UTILITIES AND ROADING COMMITTEE
DATE OF MEETING:	21 November 2023
AUTHOR(S):	Kalley Simpson, 3 Waters Manager Joanne McBride, Roading and Transport Manager Daryll Pinfold, Flood Team Lead
SUBJECT:	July 2023 Flood Recovery Progress Update
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

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 and classified into a total of 81 investigations, 126 maintenance actions and 31 customer advice actions. The total number of investigations has increased by 1 to 81 following the previous Utilities & Roading Committee meeting. This was because an investigation has been split into two as it involved two separate flooding issues.

1.3 As at 9 November 2023, all investigations have been triaged, 38 are in the scoping phase and 17 are under investigation, 9 are in the approval stage and 17 have been completed. There are now four resources from the Flood Team allocated to undertaking the investigations and implementing any immediate works this financial year.

1.4 A further 126 maintenance actions were also identified from the service requests following the July 2023 event. As at 9 November 2023, all have been started and 68 are work in progress, 11 have been programmed, and 47 have been completed. There are two resources from the Flood Team allocated to undertaking the maintenance inspections and assigning actions to our maintenance contractors.

1.5 Work on the following three key focus areas that experience extensive flooding has commenced:

- **Cam River / Ruataniwha** – Immediate maintenance works were completed in October. Remaining maintenance works will be undertaken by Environment Canterbury starting in November. Localised stopbank improvement works are also required as immediate works to improve the upper Cam River / Ruataniwha system upstream of Bramleys Road.
- **Tuahiwi** – A detailed site investigation is required to establish the extent of maintenance works required on the main channel of the Tuahiwi Stream / Waituere and the on the diversion channel from Greens Road to the Cam River / Ruataniwha. Initial meetings with impacted property owners have been held.
- **Waikuku Beach** – Detailed assessment is required to determine the cause of flooding which was higher than expected. This work will look at factors such as the operation of the flood gate, upstream development, and the catchment hydrology,

including any recharge from the Ashley River. A meeting with Environment Canterbury has been held as part of scoping the modelling work required.

1.6 The total cost of the flood recovery work is $4.055 million (refer TRIM 230921147926). To date $1,258,045 (or approximately 31%) of the work has been completed and the final forecast expenditure remains at $4.055 million.

1.7 A communications strategy document has been prepared, which covers the update of the website for the July 2023 event and regular fortnightly updates, phone call or email contact with the service request submitters to provide updates, residents meetings where appropriate, and close out correspondence when each investigation is complete.

Attachments:

i. Flood Recovery Detailed Tracking July 2023 Event – As at 9th November 2023 (Trim 231109180220).

ii. Flood Recovery Dashboard July 2023 Event – As at 9th November 2023 (Trim 231109180215).

iii. Flood Recovery 2023 Flooding regular updates communications action plan - As at 9th November 2023 (Trim 231109180211).

2. RECOMMENDATION

2.1. **THAT** the Utilities and Roading Committee:

a. **Receives** Report No. 231109180290

b. **Notes** that the three key areas of Cam River / Ruataniwha, Tuahiwi and Waikuku Beach will require more detailed assessment, investigation and community and stakeholder consultation;

c. **Notes** that all 81 investigations have been triaged, 38 are currently being scoped, 17 are under investigation, 9 have works being reviewed for approval and 17 are complete;

d. **Notes** that of the 126 maintenance actions, 68 are work in progress, 11 have works programmed, and 47 are complete;

e. **Notes** that the total cost estimate for the flood recovery work is $4.055 million.

f. **Notes** that the expenditure to date is $1,258,045 and the final forecast expenditure remains at $4.055 million;

g. **Endorses** the Draft Communication Action Plan for flood recovery communications (Trim 231109180211) included in Attachment iii;

h. **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 81 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 advise is required to be provided to the customer.

Table 1 – Classification of Service Requests

Classification		No. SR	Investigations	Maintenance Tasks
Investigations	Recent (July 2022)	82	36	-
	Historical	54	30	-
	New	25	15	-
Maintenance		159	-	126
Customer Advised		31	-	-
TOTAL[1]		**351**	**81**	**126**

[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.

3.3 It is noted that the total number of investigations may still change as additional areas related to the flooding in July 2023 are raised.

3.4 A Flood Team has been established, predominantly comprising of external resources but with support from internal resources where there is existing project work underway related to the issue. The tracking system, used for the previous Flood Team investigation work, will again be used to ensure that each investigation is tracked through until completion.

3.5 The Flood Team will be overseen by a Flood Recovery Project Control Group (PCG), comprised of relevant managers from the Utilities & Roading department. The PCG will be updating the tracking spreadsheet weekly, providing an update memo via email to Councillors and Community Board members fortnightly, and reporting 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

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. The remaining maintenance works will be undertaken by Environment Canterbury starting in November. Localised stopbank improvement works are also required to improve the upper Cam River / Ruataniwha system upstream of Bramleys Road, the design of these works is about to commence. Environment Canterbury are currently re-surveying of the bed and banks of river as part of updating the Scheme Plan for the Cam River/ Ruataniwha.

4.3. Detailed site investigation is underway in the Tuahiwi area to establish the extent of maintenance works required on the main channel of the Tuahiwi Stream / Waituere and the on the diversion channel from Greens Road to the Cam River / Ruataniwha. Initial meetings with impacted property owners have been held.

4.4. Modelling works is proposed of the Taranaki Stream 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 Environment Canterbury has been held as part of scoping the modelling work required.

Progress of Investigations

4.5. All of the 81 investigations have been triaged, 38 are in the scoping phase and 17 are under investigation. The total number of investigations has increased by 1 to 81 following the previous Utilities & Roading Committee meeting. This was because an investigation has been split into two as it involved two separate flooding issues. The current status of these are summarised in the following table.

Table 2 – Progress of Investigations

Phase	Previous Report	Current Status[4]	Change
Triaging	0	0	-
Scoping	40	38	-2
Under investigation (Flood Team)	32	17	-15
Review and approval (Asset Manager)	2	9	+7
Maintenance / immediate works programmed[1]	5	0	-5
Improvement works proposed[2]	0	0	-
Completed[3]	1	17	+16
Total	**80**	**81**	

[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 9 November 2023.

4.6. While progress is being made on the 81 investigations, addressing the issues through physical works or changes to maintenance practice (if it is WDC's responsibility) is the outcome that is most sought by the affected residents. The following table provides a summary of the solutions identified by the investigations, which will be updated as the investigations are progressed to completion.

Table 3 – Outcome of Investigations

Implementation Solutions	Previous Report	Current Status	Change
Not yet determined	74	75	+1
Physical Works FY22/23	6	6	-
Future year capex	0	0	-
O&M changes	0	0	-
No action/Customer Advice	0	0	-
Total	80	81	+1

4.7. The current estimated expenditure for investigations is $212,500. The budget for the Investigation costs is up to $450,000 drawing from the allocated fund of $600,000 for the Flood Team investigation work. The remaining $150,000 has been assigned to the Maintenance Action costs where $100,400 has been spent.

4.8. The image below shows a graphical representation of the total expenditure (actual costs) against progress and budget for each phase of the investigation. To date, $212,500 has been spent out of a budget of $450,000. Figure 1 shows that actual progress and actual costs are generally in alignment indicating forecast costing is expected to meet budget.

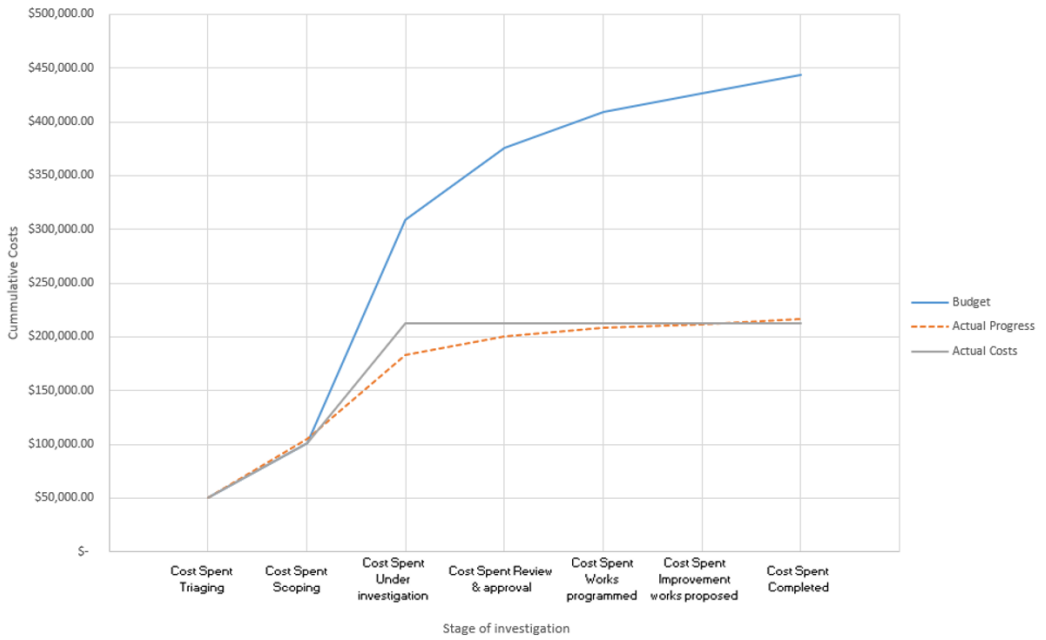


Figure 1 – Investigation Financial Progress

4.9. 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

4.10. Of the 126 maintenance actions all 126 have now been inspected. The current status of these is summarised in the following table.

Table 4 – Progress with Maintenance Actions

Phase	Previous Report	Current Status[2]	Change
To be started	22	0	-22
Work in progress	103	79	-24
Completed[1]	1	47	+46
Total	**126**	**126**	**-**

[1] Inspection complete, maintenance required programmed, customer/s called back.

[2] As at 9 November 2023.

4.11. The image below shows a graphical representation of the total expenditure (actual costs) against progress and budget for each phase of the maintenance actions. The budget is $150,000 and total costs spent to date is $100,400.

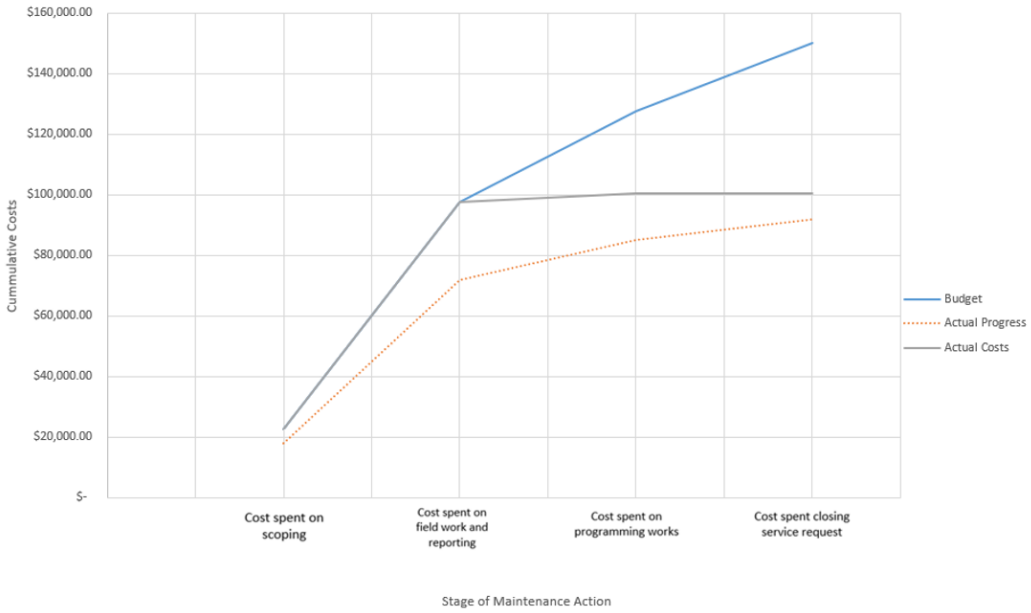


Figure 2 – Maintenance Actions Financial Progress

Communications

4.12. The communications strategy document is prepared for endorsement by the Utilities & Roading Committee.

4.13. The website has been updated to deliver the flood response progress to the public based on the progress as at 5th October 2023. The website will be updated for the latest progress within the week of the 6th November 2023.

4.14. A programme of regular communications will be implemented to support the recovery programme. In particular, the following key activities will be undertaken, similar to the previous approach:

- 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.
- Residents 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.
- Close out emails or communications with submitters as appropriate when each investigation is complete.

Implications for Community Wellbeing

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

4.16. 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.

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

5. COMMUNITY VIEWS

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 Environment Canterbury (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 current (2023 / 2024) financial year for emergency and immediate works responding to and recovering from the flooding. A further report, covering the funding and rating implications, was provided to Council in October to seek approval of budgets for this expenditure. Subsequent reports to the Utilities & Roading Committee will provide an update on forecast expenditure versus the approved budget.

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.

Table 5 – Financial Spend Summary

Area	Estimate	Spent to date	Forecast final expenditure
Roading	$1,950,000	$701,900	$1,950,000
Stormwater	$230,000	$105,755	$230,000
Land Drainage	$815,000	$11,170	$815,000
Rivers	$300,000	$10,000	$300,000
Wastewater	$160,000	$116,320	$160,000
Flood Response Investigations	$600,000	$312,900	$600,000
TOTAL	**$4,055,000**	**$1,258,045**	**$4,055,000**

6.3. At this stage it is expected that the final expenditure will be within the budget estimate approved by Council in October 2023. Subsequent reports to the Utilities & Roading Committee will provide a detailed update of the expenditure to date and the expected spend profile both this financial year and next financial year.

Sustainability and Climate Change Impacts

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

Risk Management

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

6.6. 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

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

6.8. 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. CONTEXT

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.

Project **Reporting**

As at 9th November 2023

Work package	Location	Date this report last updated	Stage	%age complete of stage	Progress since last reported	Planned actions	Traffic light
23I-01	South Brook / Marsh Road, RANGIORA	31/10/2023	Under investigation	80	Report being prepared. Culvert capacity assessment complete, and recommendations being made in alignment with the Cam River Improvements	Check capacity of Marsh Road culvert. Assess South Brook channel for maintenance requirements between the railway line and the confluence with the Cam River.	Green
23I-02	Pascoe Drive, WOODEND	31/10/2023	Review & approval	60	Report prepared and under review.	CCTV pipework. Consider potential piped linkage through to Benjes.	Green
23I-03	Poyntzs Road, CUST	31/10/2023	Review & approval	40	Proposed solution has been designed, driveway culvert size to be reviewed against future waterrace upgrades in the area..	Evaluate potential improvements conceptually developed. Implement upgrades as immediate works.	Green
23I-04	Edmunds Road, CLARKVILLE	31/10/2023	Under investigation	40	Survey programmed. Survey results will confirm the feasibility of options being considered.	Assess potential capacity improvements. Implement upgrades as immediate works.	Green
23I-05	Newnham Street, RANGIORA	31/10/2023	Scoping	50	Scoping underway and site visit being planned.	Review previous advise (FT01, DR2101140). Investigate location of spring/s. Consider what improvement works can be undertaken.	Green
23I-06	Raddens Road, OHOKA	31/10/2023	Review & approval	60	Report prepared and under review.	Investigate easement. Review BC (and RC) files. Consider if a bund is warranted. Ensure overflow to Ohoka Stream South Branch is maintained through property.	Green
23I-07	North Eyre Road, EYRETON	31/10/2023	Completed	100	Contractor has been confirmed for construction of the proposed solution.	Construction to commence.	Green
23I-08	Jeffs Drain Road, CLARKVILLE	31/10/2023	Under Investigation	50	Site visit complete. Review of public drainage infrastructure underway. Investigation report being prepared.	Evaluate if related to the new Butchers Road bridge. Consider if driveway culvert needs to be upgraded.	Green
23I-09	Tram Road / Whites Road, MANDEVILLE	31/10/2023	Review & approval	60	Report prepared and under review.	Maintenance: Check Whites Road drain. Investigation: Check culvert capacity under Tram Road. Update Waimap.	Green
23I-10	Woodfields Road (Site 2), CUST	7/09/2023	Scoping	0		Assess potential capacity improvements conceptually developed by Dan Lewis. Consider is improvements should be implemented as part of the other immediate works in the Woodfields Road area.	Green
23I-11	Threlkelds Road, OHOKA	31/10/2023	Under investigation	20	Review of existing drainage infrastruture underway. Site visit planned.	Check spill pipe under Threlkelds Road and outlet to Cust Main Drain. Consider options to improve access. Assess feedback from the street meeting held with residents.	Green
23I-12	Loburn Terrace Road (Site 1), LOBURN NORTH	31/10/2023	Review & approval	60	Report prepared and under review.	Implement upsizing of culvert and drain cleaning planned for July 2023. Confirm with Roading if this work has been completed.	Green
23I-13	Terrace Road, CUST	7/09/2023	Scoping	50	Scoping underway and site visit being planned.	Relates to drainage from a recent development. Subdivisions team to progress.	Green
23I-14	Waikuku Beach Road / Leggits Road, WAIKUKU BEACH	7/09/2023	Scoping	50	Scoping underway and site visit being planned.	Confirm with Ecan that the Leggits Road flap gate has been cleared and was regulerly checked prior, during and after the July 2023 rainfall event. Consider if culvert under Waikuku Beach Road is required. Assess	Green
23I-15	Swannanoa Road, FERNSIDE	7/09/2023	Scoping	50	Scoping underway and site visit being planned.	Evaluate if any interim localised improvements can be made. Ultimately implement the Lilly Road diversion that is proposed.	Green
23I-16	Loburn Terrace Road (Site 2), LOBURN	31/10/2023	Review & approval	60	Report prepared and under review.	Complete upsizing of culvert and drain cleaning planned for July 2023 if not done so already. Check not related to 23I-12.	Green
23I-17	Siena Place, MANDEVILLE	7/09/2023	Scoping	50	Scoping underway and site visit being planned.	Provide advice to customer. Consider if improvements to onsite sewer system or Council pressure system is required.	Green
23I-18	Collins Drive, WAIKUKU BEACH	31/10/2023	Review & approval	10	Report under review	Consider improvements suggested by Corde in SR. Review previous improvement works. May be due to high tailwater levels in Ashley River.	Green

Project **Reporting**

As at 9th November 2023

Work package	Location	Date this report last updated	Stage	%age complete of stage	Progress since last reported	Planned actions	Traffic light
23I-19	Park Terrace, WAIKUKU BEACH	31/10/2023	Under investigation	50	Site visit completed. Investigation report being prepared.	Assess as part of the Taranaki Stream assessment. Refer 23I-20.	Green
23I-20	Taranaki Stream, WAIKUKU BEACH	31/10/2023	Under Investigation	60	Site visit completed. Investigation report being prepared.	Model the Taranaki Stream and simulate the July 2023 event. Assess impact of high levels in the Ashley River, upstream development (Pegasus and Ravenswood) and potential backflow or subsurface flow from the Ashley	Green
23I-21	Island Road, KAIAPOI	31/10/2023	Under investigation	20	Site visit completed. Investigation report being prepared.	Check drain and culverts. Review modelling results. Consider if any improvements can be made and integrate as part of Roading intersection works.	Green
23I-22	Greigs Road, CLARKVILLE	7/09/2023	Scoping	50	Scoping underway and site visit being planned.	Check capacity of driveway culvert. Link in with works to upgrade drainage system into properties off Heywards Road.	Green
23I-23	Woodfields Road (Site 3), CUST	7/09/2023	Scoping	50	Scoping underway and site visit being planned.	Review previous assessment work. Consider improvements to upstream intersection pipework.	Green
23I-24	Cam River, TUAHIWI	7/09/2023	Review & approval	90	Draft report provided for review.	Meet with property owners that reported issues to undersand location and mechanism of flood. Inspect Cam River channel. Assess potential improvements and work with ECan to implement. Request Ecan to extend their Cam	Green
23I-25	Reserve Road, WAIKUKU BEACH	7/09/2023	Scoping	0		Assess potential improvements. Partially related to Taranaki Stream Assessment project. Partially related to FT25.	Green
23I-26	Queens Avenue / Collins Drive, WAIKUKU BEACH	7/09/2023	Review & approval	50	Draft report under review.	Survey Queens Ave. Determine outlet from low point (may be a soakpit?). Assess potential improvements.	Green
23I-27	Charles Street, RANGIORA	7/09/2023	Scoping	10	Investigation planning underway.	Invesitgate onsite drainage systems and the potential for an historical spring or capped well that has been damaged. Determine potential improvement works.	Green
23I-28	Browns Road, SWANNANOA	7/09/2023	Scoping	0		Consider potential improvements. Engage with Ecan regarding diversion. Prepare msummary memo.	Green
23I-29	Ohoka Road, KAIAPOI	7/09/2023	Under investigation	0		Review RC and BC. Determine if any improvements are required.	Green
23I-30	Rowse Street, RANGIORA	7/09/2023	Under investigation	90	CCTV investigation complete. Draft report being prepared for review.	Investigate potential of an historical spring under house. Provide advice to property owner.	Green
23I-31	Eders Road / Parsonage Road, WOODEND	7/09/2023	Scoping	0		Consider potential improvements that can be implemented, either immediately or as part of development of the area.	Green
23I-32	Upper Sefton Road, SEFTON	7/09/2023	Under investigation	80	Draft investigation report being prepared for review	Consider additional improvements to manage the distribution of flows and the debris load from the upstream catchment. Potentially upsize the downstream culvert from a tripple pipe to a box culvert.	Green
23I-33	Old North Road (Site 1), KAIAPOI	9/11/2023	Completed	100	Draft investigation report being prepared for review	Undertake survey and consider improvements in the road reserve suggested in SR. Not Required - Pat Towse	Green
23I-34	Sladdens Farm Road, COOPERS CREEK	9/11/2023	Completed	100	Short term works are underway. Scoping for long term works to be started.	Implement short term works. Start long term works scoping and design.	Green
23I-35	Old North Road (Site 2), KAIAPOI	9/11/2023	Completed	100	Outlet works have been copmleted by the landowner.	No further actions.	Green
23I-36	Evans Place, KAIAPOI	26/10/2023	Under investigation	50	Draft investigation report being prepared for review	Confirm source of flooding. Check 225mm outlet to Dudley Drain.	Green

Project **Reporting**

As at 9th November 2023

Work package	Location	Date this report last updated	Stage	%age complete of stage	Progress since last reported	Planned actions	Traffic light
23I-37	Otaki Street, KAIAPOI	10/10/2023	Completed	100	Source of flooding is from the backyard.	No further actions.	Green
23I-38	Alpine Lane, KAIAPOI	7/09/2023	Scoping	0		Consider if more effective alignment for sewer pipework is feasible.	Green
23I-39	Cam Road, KAIAPOI	7/09/2023	Scoping	0		Consider if more effective alignment for sewer pipework. Assess is related to historical investigation H10.	Green
23I-40	Kings PS, WAIKUKU BEACH	31/10/2023	Under Investigation	60	Investigation indicates likely related to the Kings Ave PS issues. Design finalised for Kings Ave PS.	Related to Kings Ave PS. Implement upgrading works.	Green
23I-41	Pankhurst PS, WOODEND	7/09/2023	Scoping	0		Inspect PS with Water Unit to confirm no recent issues. Undertake CCTV of pipework. Consider if I&I invesitgations are warranted based on historical flows to PS and catchment area.	Green
23I-42	Revells Road, TUAHIWI	7/09/2023	Under Investigation	80	Stopbank spill location discussed with Ecan.	Liase with Ecan over spill locations. Investigate Revells Road Drain - survey likely to be required. Consider outlet pipe through old river meander.	Green
23I-43	South Eyre Road, EYREWELL	31/10/2023	Completed	100	Landowner constructed new drainage onsite to mitigate flooding.	No further actions.	Green
23I-43	South Eyre Road, EYREWELL	31/10/2023	Under investigation	50	Site visit completed. Draft report being prepared		Green
23I-44	Lower Sefton Road, ASHLEY	31/10/2023	Under investigation	50	Draft report being prepared.	Investigate need for a bund on McGifferts Road @ Saltwater Creek. Check downstream culverts along Lower Sefton Road. Provide advice to property owner on onsite improvements.	Green
231-45	Railway Street, SEFTON	31/10/2023	Under investigation	60	Draft report being prepared. Ecan contacted to discuss flood mitigation options for the waterway.	Investigate need for new stopbank along lower lying stream edge	
FT04	Beach Road, KAIAPOI	7/09/2023	Completed	100	Migitation measures completed.		Green
FT10	Main North Road, KAIAPOI	31/10/2023	Completed	100	Physical works are complete, asbulits have been provided. Remedial work for new stormwater lateral also complete.	Connect remaining lateral which was missed as part of previous works.	Green
FT17	Cridland Street West, KAIAPOI	31/10/2023	Scoping	20	Scoping for investigation underway	Review previous works. Implement interim improvements for area closer to the motorway.	Green
FT24	Broadway Avenue, WAIKUKU BEACH	7/09/2023	Completed	100		Flap gate to prevent backflow have been installed and lateral to property provided. Assess Taranaki Stream levels as part of 23I-20.	Green
FT25	Reserve Road, Kiwi Avenue, Cross Street, WAIKUKU BEACH	7/09/2023	Under investigation	10	Scoping for investigation coplete, site visit planned.	Consider need for flapgate. Part of Taranaki Stream Assessment project.	Green
FT27	Swindells Road	26/04/2023	Works programmed	90		Commencing detailed design. Amber due to tight timeframe	Amber
FT31	Pegasus Main Street, PEGASUS	31/10/2023	Under Investigation	50		Install piezometer. Complete infiltration testing. Progress design. Implement upgrade.	Green
FT37	High Street, OXFORD	31/10/2023	Review & Approval	60	Community Report prepared for U&R.	Finalise design and tender physical works.	Amber

Project		Reporting

As at 9th November 2023

Work package	Location	Date this report last updated	Stage	%age complete of stage	Progress since last reported	Planned actions	Traffic light
FT42	Wilson Drive, OHOKA	31/10/2023	Under Investigation	90		Design and build new pipeline.	Green
FT44	Main North Road SH1, WAIKUKU	31/10/2023			Works programmed and under construction to address runoff from the road only.	Contract awarded. Obtaining final approvals prior to starting works.	Green
FT45	Macdonalds Lane, WAIKUKU	31/10/2023	Scoping	0		Review works undertaken. Consider options to provide secondary flow from soakpit.	Green
FT46	Stalkers Road, WOODEND BEACH	31/10/2023	Completed	100	Detailed design being revised. Tender document prepartion on hold and will be updated when design is finalised.	Implement drainage upgrades currently being tendered. Undertake I&I investigations.	Green
FT49	Cust Road, CUST	7/09/2023	Scoping	0		Consider options to construction overflow to lower terrace.	Green
FT50	Earlys Road & Cust Road, CUST	31/10/2023	Completed	100	Contractor has been engaged to provide pricing for construction of the proposed solution.	Scope localised drainage improvements and downstream grill modifications.	Green
FT56	Depot Road, OXFORD	7/09/2023	Under Investigation	0		Review previous investigation and assess if previous conclusions need to change.	Green
FT62	Featherstone Avenue, KAIRAKI	7/09/2023	Completed	100	Migitation measures completed.		Green
H08	Belcher Street, KAIAPOI	7/09/2023	Under investigation	20	Recent service requests being reviewed.	Inspect and decide if any remedial works or further works are required.	Green
H14	Woodfields Road (Site 1), CUST	7/09/2023	Under Investigation	10		Progress design. Discuss with landonwers.	Green
H16	Cones Road / Fawcetts Road, ASHLEY	7/09/2023	Works programmed	50		Complete assessment to confirm size of diversion channel. Finalise design and tender works in Cones Road. Consider overflow pipe to Ashley River from end of Max Wallace Drive. Provide advice to landowners on maintenance	Green
H18	Greens Road, TUAHIWI	7/09/2023	Under Investigation	50		Implement culvert upsizing. Consider if wider scale upgrades of the diversion channel can be undertaken. Potentially consider as part of NS5.	Green
H21	Belmont Aveune, RANGIORA	7/09/2023	Scoping	0		Review previous works. Implement positive drainage to lower catchment.	Green
H24	Wetherfield Lane, MANDEVILLE	7/09/2023	Under Investigation	50		Assess as part of the Mandeville Resurgence Channel project.	Green
H27	Island Road / Silverstream, KAIAPOI	7/09/2023	Under Investigation	10		Meet with landowner and Ecan onsite. Discuss next steps / provide advice.	Green
H30	Resurgence Flow, MANDEVILLE	7/09/2023	Under Investigation	50		Part of the Mandeville Resurgence Channel Upgrade / Diversion Project to be deliver in future years	Green
H32	Washington Place, WEST EYRETON	7/09/2023	Scoping	0		Confirm proposed solutions from previous invesitgation are still apprpriate. Consider any immediate improvement works that can be made based on feedback from the residents meeting held.	Green
H41	Burgesses Road and Tram Road, WAIMAKARIRI DISTRICT	4/10/2023	Improvement works proposed	50	Design complete. Tender documents prepared. Waiting on land owner approval to undertake work prior to placing job to tender	Maintenance works include: Jet and CCTV inspect 375mm pipe north of Tram Rd, clean out downstram drain. Physical works which include: upsizing of 375 on north side of Tram Rd to a 750mm.	Green

Project **Reporting**

As at 9th November 2023

Work package	Location	Date this report last updated	Stage	%age complete of stage	Progress since last reported	Planned actions	Traffic light
N08	Fairweather Crescent / Kiln Place, KAIAPOI	7/09/2023	Under Investigation	50		Complete Kaikanui Stream modelling. Assess impacts of high stream levels on the street reticulation. Develop long term solution (note funding already in the LTP).	Green
N13	Beach Crescent, WAIKUKU BEACH	7/09/2023	Under Investigation	70	Investigation ongoing to confirm appropriate interim solution	Implement alternative interim solution.	Green
N18	Northside Drive, WAIKUKU BEACH	7/09/2023	Under Investigation	30	Draft report being prepared.	Consider as part of the Northside Bund Works. Budget has been approved for the 23/24 FY.	Green
N19	Church Bush Road, TUAHIWI	7/09/2023	Scoping	10	Scoping for investigation underway	Review previous assessment work. Discuss potential options that local residents have considered.	Green
N30	Bramleys Road, TUAHIWI	7/09/2023	Scoping	10	Scoping for investigation underway	Consider previous investigation works. Survey upstream bund and raise driveway. Install additonal culvert under Bramleys Road.	Green
N32	Queens Avenue, WAIKUKU BEACH	7/09/2023	Review & approval	50	Draft report copmleted and under review	Investigate options to give positive drainage from low property in Queens Ave.	Green
NS1	Percival Street, RANGIORA	7/09/2023	Scoping	90	Scoping for investigation underway	Review against previous work. Consider if onsite venting is adequate.	Green
NS4	Mandeville Sewer, MANDEVILLE	7/09/2023	Scoping	0		Confirm this is one of the tanks that has been raised.	Green
NS5	Tuahiwi Sewer, FERNSIDE	7/09/2023	Under investigation	90		Confirm this is one of the tanks to fix	Green

FLOOD RECOVERY FORTNIGHTLY STATUS REPORT
As at Thursday, 9 November 2023

Fortnightly Report

Introduction
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.

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 traffic light report on all 80 investigations

General Update
There have now been 47 out of 81 investigations completed, 9 are under review and approval, 17 are under investigation and 38 are in the scoping phase (yet to start).

In the key focus areas which are reported on the right hand side of this page, all are progressing well. One is amber due to the tight delivery timeframe and the other investigations are close to completion.

The maintenance team have made good progress with 82 under work in progress, 12 works programmed, 31 completed, with 1 to be started.

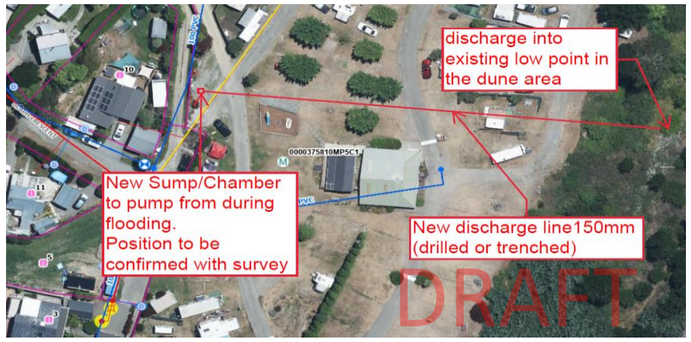


Image of revised DRAFT flood mitigation concept, Beach Crescent Waikuku Beach

Key Metrics

Investigation Phase	As at 5 October	This report	Change
Triaging	0	0	0
Scoping	40	38	-2
Under investigation	32	17	-15
Review & approval	2	9	7
Works programmed	5	0	-5
Improvement works proposed	0	0	0
Completed	1	17	16
Total	**80**	**81**	**1**

Implementation Solutions	As at 5 October	This report	Change
Not yet determined	74	75	1
Physical Works FY23/24	6	6	0
Future year capex	0	0	0
O&M changes	0	0	0
No action/Customer Advice	0	0	0
Total	**80**	**81**	**1**

Maintenance Actions Phase	As at 5 October	This report	Change
To be started	22	0	-22
Work in progress	95	68	-27
Works programmed	8	11	3
Completed	1	47	46
Total	**126**	**126**	**0**

Key Focus Areas

Cam River	Immediate maintenance works were completed in October. Remaining maintenance works will be undertaken by Ecan starting in November. Localised stopbank improvement works are also required as immediate works to improve the upper Cam River / Ruataniwha system.	**Under Investigation**
Tuahiwi	A detailed site investigation is required to establish the extent of maintenance works required on the main channel of the Tuahiwi Stream / Waituere and the on the diversion channel from Greens Road to the Cam River / Ruataniwha.	**Under Investigation**
Waikuku Beach	Detailed assessment is required to determine the cause of flooding which was was higher than expected. This work will look at factors such as the operation of the flood gate, upstream development, and the catchment hydrology, including any recharge from the Ashley River.	**Under Investigation**
Swindells Road, Waikuku Beach	Options memo has been finalised. Construction planned in 2023/24. Amber due to tight timeframe to meet these dates.	**Works Programmed**
Stalkers Road, Woodend Beach	Issue with regular flooding during periods of high groundwater and causing issue with overloading the sewer. Investigations completed. Design in progress.	**Works Programmed**
Cust Road, Cust	New larger soakpits have been installed, but were overloaded in the July 2023 event. Solution to install overflow pipe to the lower terrace to be progressed.	**Future year capex**
Washington Place, West Eyreton	Residents meeting with landowners held at West Eyreton Hall. Confirm recommended works proposed for next financial year based on recent flooding. Evaluate and implement short-term works this financial year.	**Works Programmed**
Featherstone Ave, Kairaki	Issue with inflow and infiltration overloading the sewer. Urgent works to address main issues in campground completed. Additional remedial work on manholes and laterals in Featherstone Ave to be progressed.	**Works Programmed**
Cones Road, Ashley	Modelling work currently underway to confirm the proposed design. Weir has been modified. Proposed drain upgrading works are schedule for February-March 2024.	**Works Programmed**
Resurgence Flow, Mandeville	Public consultation completed in September for Stage 1 and 2 options. Report for decision on recommended options to be presented at January LTP Meetings. July 2023 service requests are being reviewed against the project.	**Future year capex**
Beach Crescent, Waikuku Beach	Install sumps and pipework to connect existing low points to a new pump chamber in the campground and install a discharge main through to the sand dunes for the discharge from a portable pump.	**Works Programmed**
Tram Road, Clarkville	Upsize 375mm on north side of Tram Road to a 750mm culvert. Design approved and tender documents are being prepared. Landowner discussions underway to confirm construction access.	**Under Investigation**
Upper Sefton Road, Sefton	Investigation report under review. Site meeting to be organised after review of options are complete	**Under Investigation**

Flooding Response Communications

Draft Communication Action Plan

Version 0.1 | Last updated 16 November 2023

1. Background

The 2023 July flood event and response works have required significant focus and resourcing from the Council.

During the 2023 rain event the Council received over 335 requests for service from affected residents. In 2022 a more severe event the Council received over 800 requests.

The weather events of July 2023 resulted in damage to Council stormwater, wastewater and roading infrastructure as well as a significant number of service requests from residents.

Over $4 million for infrastructure repairs and the establishment of an Infrastructure Resilience Team (IRT) to lead flood recovery were major outcomes from the Waimakariri District Council's September meeting.

Through the Long Term Plan a report will seek the establishment of an annual budget to fund such repairs as well as provide budget for the IRT.

Utilities and Roading have established a steering group to monitor the completion of service requests relating to the most recent flood event.

The steering group will report via regular memo to Councillors and Community Board members on the progress of getting through the backlog of infrastructure replacements and related service requests.

This communications plan aims to use the information in this memo to provide an external fortnightly update for residents. It will focus on sharing this information in a transactional manner.

NOTE – The Council has a YouTube video series of socially sharable material aimed at residents to highlights in advance of adverse weather their responsibilities, Council's responsibilities and ways to best prepare.

2. Communications Approach

Based on the IAP2's Public Participation Spectrum, the suitable level of public engagement for this project is: Inform.

INFORM	
Public Participation Goal	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.
Promise To The Public	We will keep you informed.

Following each update to Council and Community Boards, the Communications and Engagement team will develop a news story highlighting progress that will be shared online and through the Community Noticeboard. This will be targeted to individual communities when applicable. More detail is on point 6 under Communication Channels.

Individual communication with residents will be undertaken through the service request system.

3. Communication Objectives

- Give context to the size and scale of the drainage and roading service requests facing Council staff
- Detail the process, time requirements for investigations and outcomes
- Provide a regular update as to the progress of getting through requests

4. Audiences and Stakeholders

Directly affected people	• Waimakariri District residents • Businesses • Community groups, resident groups, local Facebook pages • Vulnerable people groups
Council staff & elected representatives	• Emergency Management Office • Manager, Greenspace (Grant McLeod) • Manager, Community and Recreation (Chris Brown) • Customer Services • Community Boards, Mayor, and Councillors • Management Team

5. Key Messages

- At the peak of the July 2023 weather events, Council received more than 335 requests for service from residents relating to issues with our stormwater, wastewater and roading networks
- This followed a similar, but larger event in 2022 that saw over 800 similar requests.
- Although we try, it is impossible to get someone to every single service request on the night. That is why, with a triage system in place we can respond first to where we are needed most and work our way down.
- To meet this demand over $4 million for infrastructure repairs and the establishment of an Infrastructure Resilience Team (IRT) to lead flood recovery were major outcomes from the Waimakariri District Council's September meeting.
- Through the Long Term Plan a report will seek the establishment of an annual budget to fund such repairs as well as provide budget for the IRT.
- The already established Council flood team are continuing to work through these requests and will be communicating directly with residents who have lodged service requests as well as holding a number of small community meetings in areas most affected. These include:
    - The Cam River
    - Tuahiwi
    - Waikuku Beach
    - Lees Valley
- Normally people can expect a response to service request from council staff within weeks of them contacting us. Now, depending on the prioritisation of the issue it may be several months before staff can meet on site with property owners as part of our investigations.
- Requests involve on-site visits, discussion with property owners, looking at Council infrastructure and putting in place fixes, or improvements where possible. While every attempt is made to improve drainage where possible, events of this nature can cause major damage which can take months to fix
- As of *DATE* the team are *%* of the way through the total requests.

- Many if the issues identified will be prioritised and put into the Council's long term plan for improvements over the district and aim to stop similar events occurring in the future.
- We will push our 'What Happens after a Weather Event?' YouTube story throughout the communications https://www.youtube.com/watch?v=du-KMOHrsTA

6. Communication Channels

Activity	Detail	Who
Website news story	• To be developed follow fortnightly memo • Tiles will be on homepage following each update	Comms
Media releases	• News story to be shared with Local democracy reporter	Comms
Community noticeboard	• News story to be included in Community Noticeboard – both North Canterbury News and Northern Outlook	Comms
Website page	• https://www.waimakariri.govt.nz/council/major-projects • Project webpage to be created and updated throughout. The completion % of service request to feature predominately.	Comms Flood team
Social Media	• Website article to be shared on social media fortnightly • When useful for individual communities we will target their influencers, groups and pages	Comms
Email list	• The fortnightly news story could be emailed to the list of residents who have put through service requests. • However, this may seem irritating to residents who are low priority. I would instead recommend you send through updated to 'area' email groups	Comms Flood team
Community events	• If requested we could host a Q&A evening at the Council and invite the list of residents who have put through service requests	Comms Flood team

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR INFORMATION

FILE NO and TRIM NO:	RDG-08-07 / 231005158573
REPORT TO:	UTILITIES & ROADING COMMITTEE
DATE OF MEETING:	21 November 2023
AUTHOR(S):	Joanne McBride, Roading and Transport Manager Gerard Cleary, General Manager Utilities and Roading
SUBJECT:	Roading and Transport Activity Update – November 2023
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Acting Chief Executive

1. SUMMARY

1.1. This report is to provide an update to the Utilities & Roading Committee on matters of interest in terms of Roading and Transport activities.

1.2. Included is a summary of some of the key activities which have been underway over the last 12 months.

1.3. A large amount of work has been underway around the network to complete maintenance tasks and complete repairs, particularly following the July 2022 and July 2023 flood events.

1.4. There has been a focus on the unsealed road network and ensuring levels of service are met, as well as proactive maintenance such as pothole repairs.

1.5. Another weather event occurred in July 2023, which has resulted in further flood damage and repair work required to repair damage around the network.

1.6. Programmes for resealing and pavement rehabilitation have been developed for the 2023/24 years and work has started on the reseal programme for the year.

1.7. The kerb and channel renewal projects for 2022/23 was completed and work is now progressing on the 2023/24 projects, with the aim of getting these out to the market by early 2024.

2. RECOMMENDATION

THAT the Utilities & Roading Committee:

(a) **Receives** Report No. 231005158573;

(b) **Notes** the information provided is an outline of activities in the transportation area, over the year from September 2022 to September 2023;

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

3. BACKGROUND

3.1. The last year (September 2022 to September 2023) has again been a busy time with a flood event in July 2023 which has required a major focus from the wider Roading Team and the maintenance contractor to respond to and clean up from this post-event. This work is ongoing.

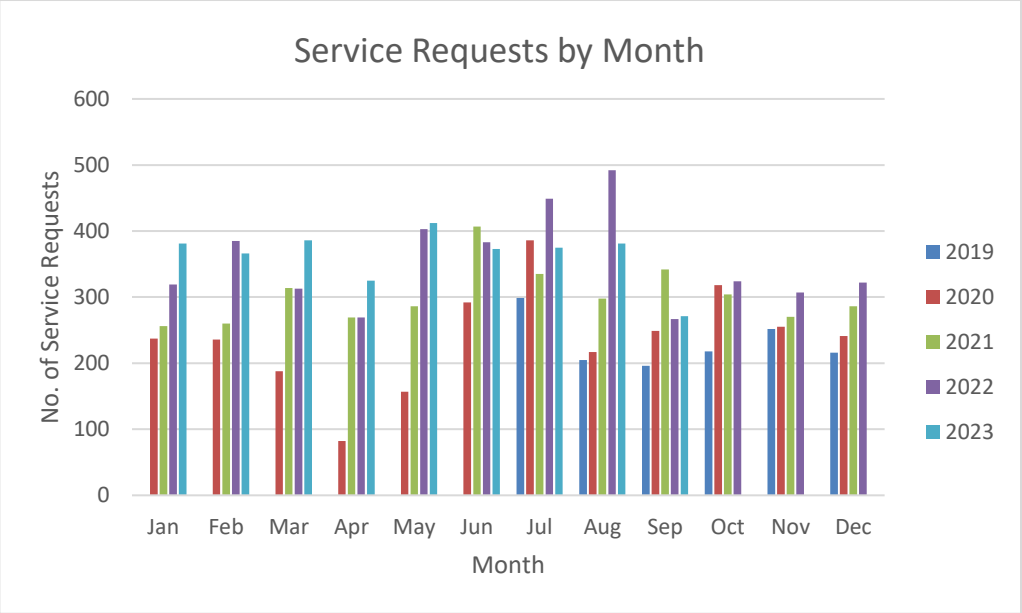
3.2. The following is an update on a number of activities which have been carried out during the last 12 months.

3.3. Service Requests

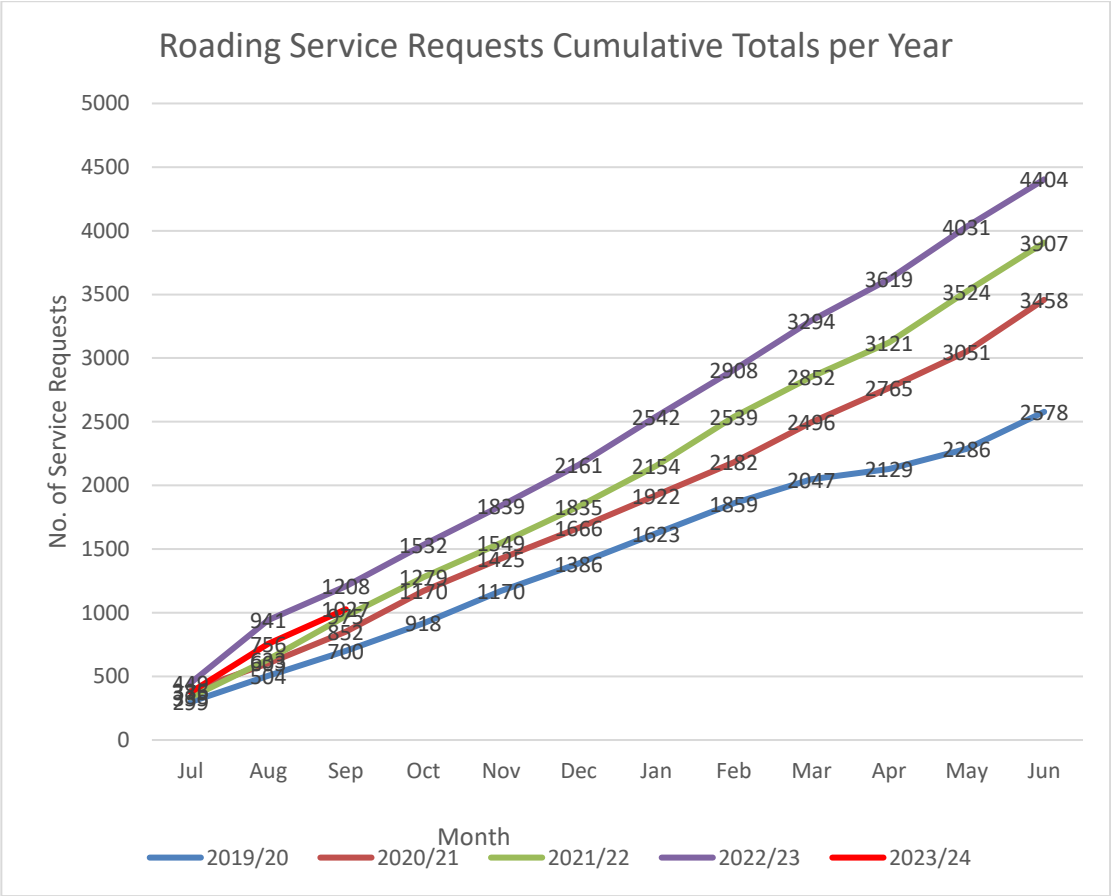
Service requests in 2023 have remained relatively steady with between 300 to 400 logged per month. The figures below include road drainage related service requests, but not land drainage requests.

The graphs below show the service requests per month and a cumulative total for the period from July 2019 to the end of September 2023. Service request numbers during the 2022/23 year (July to June) reached 4,233. This was an increase from 3,627 in the 2021/22 year (an extra 600 service requests).

Service request trends are continuing to be monitored, however there are several factors which can and have affected the number of service requests received. These factors include weather and climatic conditions, district growth, public expectations, technology (e.g., Snap, Send, Solve), level of proactive work undertaken (impacted by budgets), and providing timely responses / interventions (e.g., failure to respond or an inadequate response can generate additional service requests. Additional to this, over the last 2 years there has been a focus on ensuring that all public enquiries are managed through the service request system. This is to ensure that the issues are captured and responded to, and it allows for data to be interrogated to find themes or common issues.



Graph 1 – Service requests per month from July 2019 to 30 September 2023.



Graph 2 – Cumulative Service requests from July 2019 to September 2023.

Year & Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2019	-	-	-	-	-	-	299	205	196	218	252	216	1386
2020	237	236	188	82	157	292	386	217	249	318	255	241	2858
2021	256	260	314	269	286	407	335	298	342	304	270	286	3627
2022	319	385	313	269	403	383	449	492	267	324	307	322	4233
2023	381	366	386	325	412	373	375	381	271	-	-	-	3270*

Table 1 – Service requests from July 2019 to 30 September 2023 (Note - 2023 is a partial year)*

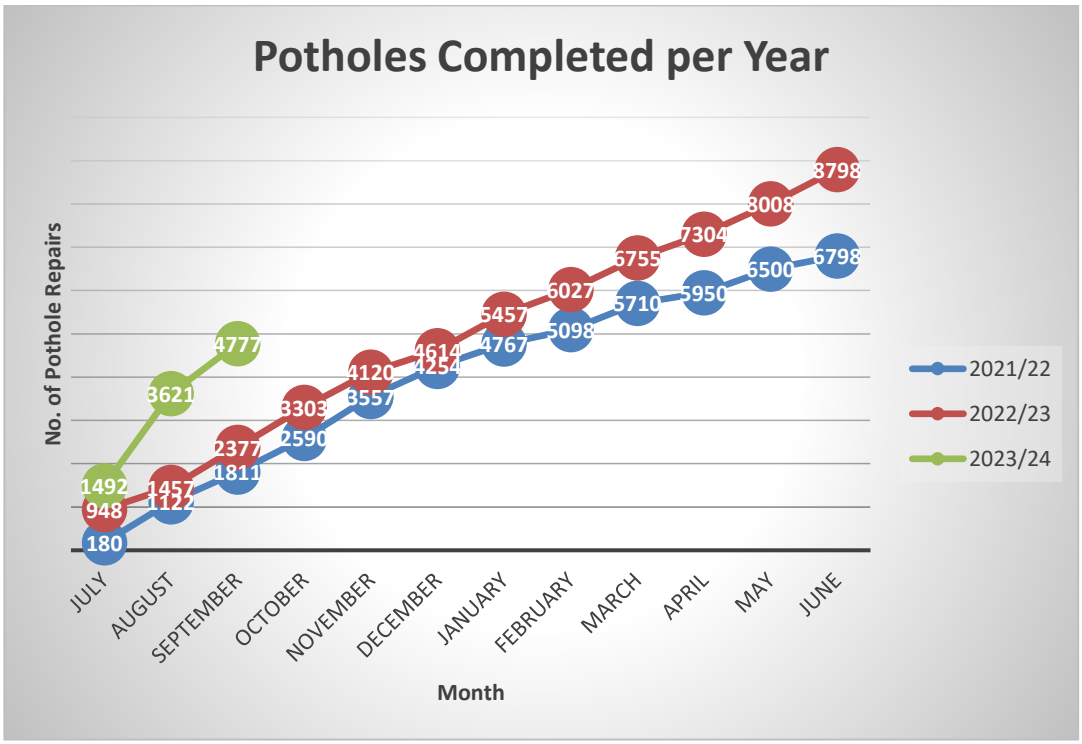
3.4. Road Maintenance Activities:

The following is an outline of some of the works completed over the last three months.

- July 2023 Flood event response and post event flood tidy up including reinstating road access and repairing scour. Lees Valley Rd drop out repairs are planned to start on approximately 20th November.
- Pavement repairs have been completed on a number of roads including High St Rangiora in the town centre, King St / Queen St roundabout, Percival St / Victoria St / Northbrook Rd bend near the Lillybrook shops and on Ohoka Rd near Whitefield St. We have experienced issues with the last site and are currently working with Corde and Isaacs to determine the cause and a remediation path.
- Minor works included Main St Oxford Pedestrian Crossing improvements, Mountain Rd / Mounseys Rd intersection improvements, Perham's Rd Ford,

- Culvert renewals / drainage repairs have been completed on Dixons Rd, Upper Sefton Rd, Powells Rd Headwall Smarts Road / Feathers Rd, Esterbrook Rd, North Eyre Rd, Oxford Rd, Ashley Gorge Rd & Canterbury St.
- Eyre River Bridge (Depot Rd) damage repairs, Harewood Rd Bridge rail repairs, Bridge Rd bridge deck and handrail repairs, Skew Bridge terminal end repairs, river training and/or rock work done at several roads / bridges including Lees Valley (x2), Harewood Rd and Taaffes Glen Rd.
- Grading – There are generally two graders working on the network, however post flood a third grader has been brought in to assist with bringing the unsealed network back into specification.
- Potholes – 8798 repairs completed for the 2022/23 financial year. In the first 3 months of the 2023/24 financial year (July to September) there have been 4,777 pothole repairs completed.

  Within the road maintenance contract, a pothole is defined as “where surface attrition has occurred over an area exceeding 70mm, but generally not greater than 1.0 m in diameter and the basecourse aggregate, or the underlying pavement, is exposed and the surrounding pavement is sound, or in the case of an asphaltic concrete surface, where the defect exceeds 50 mm in depth”.



Graph 3 – Potholes completed per year (July 2021 to current)

Month	No. of potholes completed		
	2021/22	2022/23	2023/24
July	180	948	1492
August	942	509	2129
September	689	920	1156
October	779	926	-
November	967	817	-
December	697	494	-

January	513	843	-
February	331	570	-
March	612	728	-
April	240	549	-
May	550	704	-
June	298	790	-
TOTAL (per year)	6789	8798	4777*

*Table 2 – Pothole repairs completed. * Note – Total is for three months of 2023/24 year.*

3.5. Construction season is underway:

- Resealing – The sealing season has begun, and sealing has been completed on Blackwell Cres, Bracebridge St, Woodend Rd, West Belt, George St & Dunlops Rd.
- The Pavement Rehabilitation Programme for 2023/24 has been developed and work has begun on the Lower Sefton Road. Other pavement rehabilitation works are planned for a section of Tram Rd and South Eyre Rd (both towards the western end). Planning / investigation / site specific design is currently underway for these sites.
- Asphalt resurfacing has been completed on Williams St (Courtenay Dr to Vickery St), West Belt (Oxford Rd to Milesbrook Close) and Ashley Street between Coldstream Rd and Rickman Place.

3.6. Other Contracts:

- Work is progressing on the Island Rd / Ohoka Rd Intersection tender documentation, and this is nearly ready to go out to tender.
- River Road Upgrade is also nearly ready for tender, however, there has been a delay in third party works which are required before this can be constructed. Staff are continuing to work to address this.

3.7. Corridor Management – Temporary Traffic Management:

For the over the last 12 months there has been a focus on working with contractors to improve Temporary Traffic Management as well as reviewing and closing historic Corridor Access Requests (CAR's).

The following table is for Traffic Management plans reviewed.

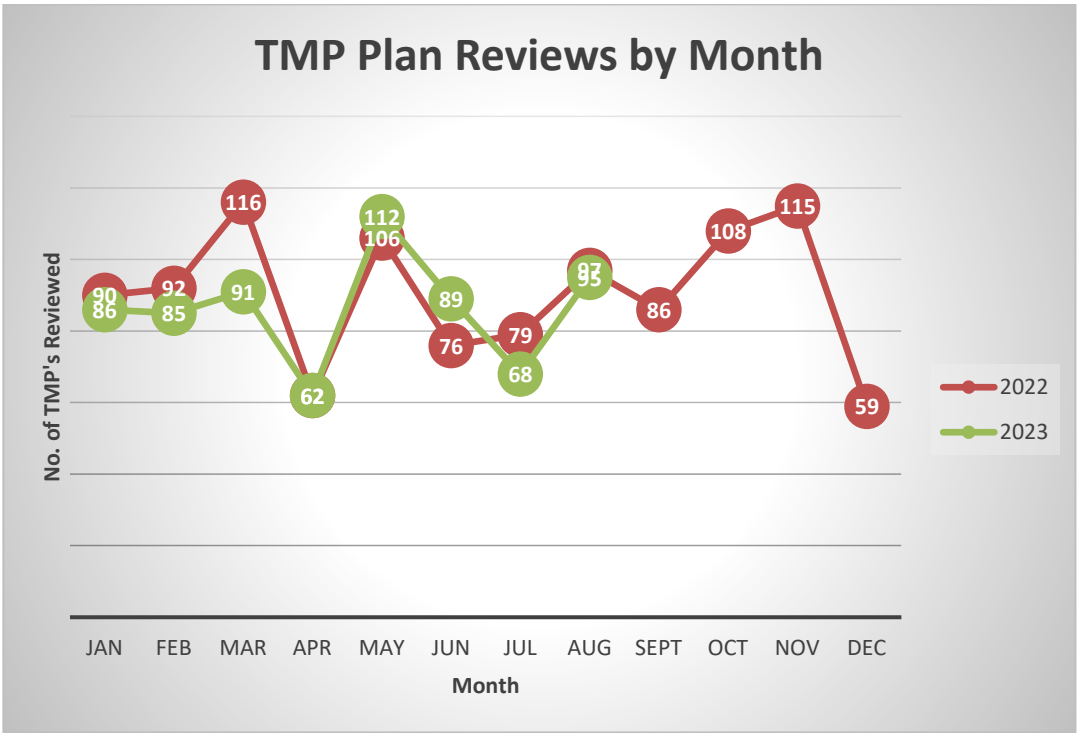
Month	**No. of Plans Approved**	**No. of Plans Declined [1]**	**Total No. of Plan Reviews[2]**
2022			
September	69	17	86
October	87	21	108
November	98	17	115
December	53	6	59
2023			
January	79	7	86
February	78	7	85
March	80	11	91
April	57	5	62
May	105	7	112

June	85	4	89
July	63	5	68
August	82	13	95
TOTAL (12 months)	**936**	**120**	**1056**

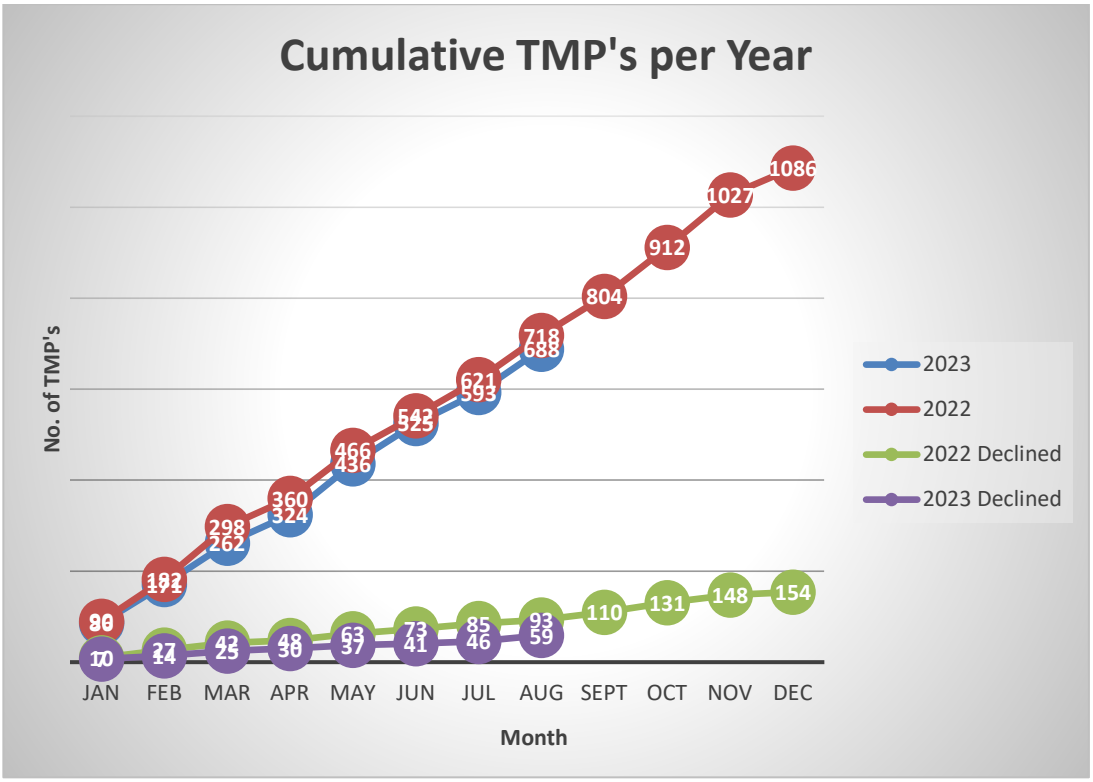
Table 3 – Temporary Traffic Management Plans processed over the last 12 months.

* Note 1 – TMP Requires additional information or consideration of impacts.

*Note 2 – An average 11% of traffic management plans have been declined or requires further work over the last 12 months. This has decreased from 13% for the previous 12-month period.



Graph 4 – Temporary Traffic Management Plans processed by month for 2022 & 2023



Graph 5 – Cumulative Temporary Traffic Management Plans for 2022 & 2023

3.8. Transport Choices Projects:

As report to Council on 7th November 2023, the Transport Choices Programme has been put on hold by Waka Kotahi. This project is funded through the Climate Emergency Response Fund (CERF) for both the Transport Choices programme and VKT Reduction planning, and this funding has been put on hold until the new government is in place and Waka Kotahi receive clear direction on the incoming government's priorities for transport investment.

Funding has previously been approved through to the completion of detailed design and as such work will continue to this stage but no further. This will allow Council to be well positioned to proceed if/when funding for construction is confirmed.

3.9. Road Safety:

The Kickstart motorcycle safety events was held in Woodend on the 23rd of September.

Staff are working with the SADD (Students Against Dangerous Driving) coordinator and have presented to the school assembly at Oxford Area School on the topic of the Drive programme. Staff are also working with them to establish at SADD group at Kaiapoi High School.

Since 1 July 2023 there have been 193 students in 7 schools receive Cycle Sense training. Those schools include Sefton School, Loburn School, Woodend School, Fernside School, Rangiora New Life School, Rangiora Borough School & West Eyreton School

4. ISSUES AND OPTIONS

4.1. A key focus of the team over the last year has been implementing more thorough auditing processes and documenting of non-compliance. This is reflected in the quarterly performance reviews.

4.2. As part of carrying out inspections, a further issue with a washed-out bridge abutment has been identified at Mounseys Bridge on Island Rd, View Hill. Staff have been working with WSP and Corde to agree and progress repairs to protect the abutment. This is planned to start later this month.

4.3. Weather events have continued to impact the district with a major rain event in July 2023 and a very strong wind event in October 2023. A further report will be brought to Council on this issue once likely costs for responding to this event is clearer.

Implications for Community Wellbeing

There are not implications on community wellbeing by the issues and options that are the subject matter of this report.

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

5. COMMUNITY VIEWS

5.1. Mana whenua

Te Ngāi Tūāhuriri hapū are likely to be affected by or have an interest in the subject matter of this report. Te Ngāi Tūāhuriri have regularly provided feedback at the Annual Hui on matters of road safety.

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.

A well maintained and safe network contributes to good community outcomes.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

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

The October 2023 strong wind event will require funding for the response. A further report will be brought to Council on this issue once the costs are clearer.

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.

6.3 Health and Safety

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

7. CONTEXT

7.1. Consistency with Policy

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

7.2. Authorising Legislation

Not applicable

7.3. **Consistency with Community Outcomes**

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

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.

7.4. **Authorising Delegations**

The Utilities and Roading Committee is responsible for roading and transport activities and has delegation to receive this report and consider matters relating to it.

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-28 / 230614088078
REPORT TO:	KAIAPOI-TUAHIWI COMMUNITY BOARD
DATE OF MEETING:	16 October 2023
AUTHOR:	Shane Binder, Senior Transportation Engineer Joanne McBride, Roading & Transport Manager
SUBJECT:	Request approval of No-Stopping Restrictions in Heywards Road
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report seeks approval to install no-stopping restrictions on the east side of Heywards Road from the intersection of Tram Road, for 125m to the south, joining up with the existing no stopping zone outside of the Clarkville Community Hall and Playcentre and extending to opposite the southern driveway of the school.

1.2. Staff received a request for no stopping from Clarkville Hall, following concerns being raised about cars stopping out into the moving lane to either pick-up or drop-off children going to Clarkville School.

1.3. This is a busy area and with an increasing roll, there are increasing movements around school drop-off and pick-up times. There are also activities at the Community Hall, and the school also utilises the hall for certain activities. As such it is important that there is good visibility around the school crossing point so this can operate safely.

1.4. Due to these safety concerns, it is recommended that stopping is prohibited at this location with markings and signs to reinforce that this area is not suitable for pick up and drop off.

1.5. Staff have met with Clarkville School and Clarkville Hall representatives, to discuss concerns and with an aim of agreeing actions to help improve safety outside the school gate. A series of actions have been agreed and are being progressed as follows:

- Messaging to parents via the school newsletter around carpark use.
- Encourage travel to be in via Tram Rd / out via Mabers Rd where possible.
- Clarkville School will investigate the option of a split pick-up time.
- WDC to provide some road markings / signage and guidance on a possible carpark layout.

1.6. After agreement by the Council on 3rd October 2023, the staff are soon to undertake consultation on a Draft Speed Management Plan for the District which includes speed limits around schools. This includes a recommendation that the speed limit be reduced to 30km/hr between Tram Rd past the school, and 60km/hr further along to the Mabers Rd intersection.

1.7. This process will take some time to complete as it involves consultation, hearings and decision process, and there is no guarantee of the outcome. Therefore, because of the importance of the existing situation, staff are recommending we do not wait for that process to be completed.

1.8. It is noted that Clarkville School do not support the installation of the no stopping, prior to the speed limit reduction being implemented. However due to safety concerns, staff are recommending that installation of the no stopping proceed before the speed limit is changed, but after communication with parents (via the School newsletter) on use of the carpark has been carried out.

2. RECOMMENDATION

THAT the Kaiapoi-Tuahiwi Community Board:

(a) **Receives** Report No. 230614088078.

AND

THAT the Kaiapoi-Tuahiwi Community Board:

THAT the Utilities and Roading Committee:

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

i. On the east side of Heywards Road from the intersection of Tram Road for 120m, to align with the end of the current no-stopping lines south of the Clarkville Community Hall.

(c) **Notes** that staff have met with Clarkville School and Hall representatives and discussed a series of actions to help mitigate safety concerns outside the school.

(d) **Notes** Clarkville School do not support the installation of no stopping lines until after a lower speed limit is implement on Heywards Rd, however due to safety concerns, it is being recommended that installation of the no stopping proceed earlier (after communications on use of the carpark has been sent out via the School Newsletter).

3. BACKGROUND

3.1. Heywards Road is a local road in Clarkville that connects from Tram Road southwest to South Eyre Road, through an area with a high number of rural lifestyle blocks and agricultural land.

3.2. The Clarkville Hall and Clarkville School are at the northern end of the road, very close to the intersection with Tram Road. Heywards Road generally has a 6.5m carriageway width but it widens to 12.0m in the vicinity of the School and Hall.

3.3. Tram Road has a posted speed limit of 80km/h and while there are school permanent warning signs in place and “School” marked on the road, speed from vehicles entering Heywards Road can be higher than desirable.

3.4. Clarkville School has a small off-road carpark for some staff and has on-road angled car parks for parents, visitors, and bus parking along the frontage on the western side of Heywards Road, starting about 40m south of the Tram Road intersection. A large, unmarked carpark also exists on the east side of Heywards Road, in front of Clarkville Community Hall. This carpark is owned by the Clarkville Community Hall, however, is also used for drop-off and pick-up for the school.

3.5. A crossing point in the middle of the carpark is used as a crossing point by the school during school drop-off and pick-up.

3.6. Most staff, parents, and students commute to Clarkville School by car due to its location. During school drop-off and pick-up, parents will use parking on both sides of Heywards Road, including the Clarkville Community Hall carpark. The vicinity of Clarkville School and Hall is shown on the next pages in Figures One and Two.

3.7. The school also utilises the Clarkville Community Hall, fields, and tennis courts during school times and therefore children will be crossing outside of pick up and drop off times.

3.8. Figure One: Locations of proposed no-stopping sites

3.9. Figure Two: Clarkville School and Hall vicinity

4. ISSUES AND OPTIONS

4.1. Staff have been approached by Clarkville Community Hall representatives and have met on site to discuss safety concerns in relation to parking activity in areas where there is insufficient width to safely park. This is resulting in cars parked into the moving lane when dropping off or picking up children from school.

4.2. Staff have also carried out observations around school pick up time (being the condensed time where parents arrive to collect children) and have observed parking in areas where there is inadequate safe space to do so, particularly given the close proximity of the Tram Road intersection.

4.3. Due to these safety concerns, it is recommended that stopping is prohibited at this location. It is noted that this recommended no-stopping length includes portions of existing no-stopping restrictions in front of the Hall carpark, so as to provide one cohesive length of no stopping along the frontage.

4.4. Figure Three: Vehicles stopped between the drain and the moving lane.

4.5. Staff have met with Clarkville School and Clarkville Hall representatives, to discuss the issues and with an aim of agreeing actions to help improve safety outside the school gate.

4.6. A series of actions have been agreed and are being progressed as follows:

- Messaging to parents via the school newsletter around use of the carpark and entry / access points
- Encourage where possible travel to be in via Tram Rd and out via Mabers Rd to reduce movements around the school gate.
- Clarkville School will investigate the option of a split pick-up time at the end of the day.
- WDC to provide some road markings / signage to guide parents using the entry / exit to the hall carpark and provide guidance to the Clarkville Hall representatives on a possible carpark layout / marking.
- Install the no stopping after the communications with parents (via the newsletter) on use of the carpark has been carried out.

4.7. On the 3 October 2023, Council approved consultation on a Draft Speed Management Plan which includes areas around schools.

4.8. Reducing speed outside Clarkville School and the Clarkville Hall was considered to be an important safety improvement by both parties' representatives. There will be an opportunity for schools and the community to provide input as part of the consultation process.

4.9. Clarkville School do not support the no stopping lines going in until the speed limit is reduced through this area, however this could take some time to get final approval through. The reason for this was the schools concern that parents would park further south on Heywards Road, and this was in an area with higher speeds. While this is noted, there is also considered to be significant risk where parents are parked into the live lane close to the Tram Rd intersection, where visibility is low. As such it is more desirable for parking to be occurring to the south of the school, where clearer visibility exists.

4.10. It is noted that this affects an area where up to 6 cars do currently stop, although this is not considered a safe location to do so.

4.11. There is an opportunity to consider further safety improvements in this area. This could include options to improve safety around the school crossing point and the entry to the hall carpark. There could also be consideration given to allocating additional budget to expand parking areas through the next Long Term Plan process.

4.12. Staff will continue to work with the school and the Clarkville Community Hall to complete actions and consider future improvements. This will take time to work through.

4.13. Therefore, the following options are available for the Community Board:

- Option One – Approve the Installation of No Stopping for 120m along the eastern side of Heywards Road.

  This is the recommended option due to the safety issues which currently exist around parents pick up / drop off of children in an area which is not suitable for this use.

- Option Two – Declines the Installation of the No Stopping for 120m along the eastern side of Heywards Road.

  This is not the recommended option as it does not address the issues around parking occurring in areas which are not suitable for safe pick up / drop off of children.

Implications for Community Wellbeing

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

The proposed no stopping installation provides safety improvements around the Clarkville Community Hall and the Clarkville School.

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

5. COMMUNITY VIEWS

5.1. Mana whenua

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

5.2. Groups and Organisations

There are groups and organisations likely to be affected by, or to have an interest in the subject matter of this report.

Members of the Clarkville Community Hall Committee and Clarkville Playcentre have met with staff to discuss concerns around safety along with other site-specific issues.

Staff have also met with both the Clarkville Community Hall representatives and Clarkville School representatives to discuss concerns and with an aim to reach agreement on safety issues and how these should be addressed. While a number of actions were agreed, agreement on the installation could not be reached.

5.3. Wider Community

The wider community is not likely to be affected by, or to have an interest in the subject matter of this report; the impacts of roadside management are considered to be localised and minor in nature. It is noted that no public consultation has been carried out with any adjacent residents or the wider community.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

There are financial implications of the decisions sought by this report. Installation of no-stopping road markings, no stopping signs and a sight rail will be carried out through the Road Maintenance contract from maintenance budgets and is estimated to cost approximately $600.

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

Improved road markings around the carpark entry and exit can be funded from the Minor Safety Programme.

6.2. **Sustainability and Climate Change Impacts**

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

6.3 **Risk Management**

If the no-stopping restriction is implemented as recommended in this report, there is a minor risk that it may not be sufficient to fully address behavioural issues which are occurring outside the school gate. Staff will also discuss concerns with the Police and work with the school to see if messaging can be put into the school newsletter.

6.3 **Health and Safety**

There are minor health and safety risks arising from the adoption/implementation of the recommendations in this report. Physical works will be undertaken through the Road Maintenance contract. The Road Maintenance contractor has a Health & Safety Plan and a SiteWise score of 100.

7. CONTEXT

7.1. **Consistency with Policy**

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

7.2. **Authorising Legislation**

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

7.3. **Consistency with Community Outcomes**

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

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.

7.4. **Authorising Delegations**

The Community Board has the delegated authority to approve traffic controls (Give Ways or Stop controls) and constraint measures on streets.

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

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-32-79-05 / 230516070310
REPORT TO:	RANGIORA-ASHLEY COMMUNITY BOARD
DATE OF MEETING:	8 November 2023
AUTHOR(S):	Kieran Straw – Civil Project Team Leader Don Young – Senior Engineering Advisor
SUBJECT:	Marshall Street Changes associated with Southbrook School Travel Plan
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Chief Executive

1. SUMMARY

1.1. This report is seeking approval of the design to improve pedestrian connectivity and Pick-up / Drop-off parking in Marshall Street, as recommended within the Southbrook School, School Travel Plan.

1.2. The proposed changes include:

1.2.1. Installation of a footpath on the eastern side of Marshall Street to connect the two existing sections of footpath on the eastern side, immediately in front of the school.

1.2.2. Installation of a “watts profile” speed hump outside No. 33 Marshall Street.

1.2.3. Conversion of six on-street car parking spaces (between No. 25 – 29 Marshall Street) to P15 between the hours of 8:00am - 9:00am, and 2:30pm – 3:30pm on School Days. This is to ensure these spaces remain available for parents to use for Pick-up / Drop-off parking.

1.2.4 Update the existing P5 signage on Denchs Road to be P5 which is currently restricted to 2:30 – 3:30pm only to be between the hours of 8:00am – 9:00am, and 2:30pm – 3:30pm on School Days

1.3. Two on-street car parking spaces in Marshall Street will need to be removed to accommodate the footpath connection north of the existing angle parking.

1.4. This work is in addition to the recent upgrades and changes in Denches Road that was completed as part of the Southbrook / Torlesse Street signals project.

1.5. The scheme design has been through a safety audit process and has been updated to include recommended changes as considered appropriate.

Attachments:

i. School Travel Plan (Trim no. 220817141870)
ii. Scheme Design (Trim no. 230821128425)
iii. Letters to Resident - redacted (Trim no. 230905137472)
iv. Correspondence with Southbrook School (Trim no. 230829133221)
v. Request from Rangiora New Life (Trim no. 230908140380)

2. RECOMMENDATION

THAT the Rangiora Ashley Community Board:

(a) **Receives** Report No. 230516070310.

AND

THAT the Rangiora-Ashley Community Board recommends:

THAT the Utilities and Roading Committee:

(b) **Approves** the scheme design (Trim: 220817141870).

(c) **Approves** the removal of two on-street car parks on the eastern side of Marshall Street (opposite No. 33) to accommodate the proposed footpath connection.

(d) **Notes** that the scheme design has been developed in conjunction with Southbrook School, as part of the development of the School Travel Plan, and that the proposed layout has been subject to an independent Road Safety Audit.

(e) **Notes** that this project is funded through the "Transport Choices" funding stream, and this requires that all works is complete by June 2024.

AND

THAT the Rangiora-Ashley Community Board recommends:

THAT the District Planning and Regulation Committee:

(f) **Approves** the implementation of limited time parking on the eastern side of Marshall Street immediately outside the school (between angle parking and the Torlesse Street intersection), with restrictions applying "Monday to Friday" (including School Holidays, and between 8:00am – 6:00pm) as follows:

"P5 Pick Up / Drop Off Only Monday to Friday"

(g) **Approves** the implementation of limited time parking on the western side of Marshall Street (No. 25 – 29), with restrictions applying during school days / hours as follows:

"P15 8:00am – 9am 2:30pm – 3:30pm School Days"

(h) **Approves** the amendment of existing P5 parking restrictions on Denchs to include the morning pick-up / drop off times (currently restricted for afternoons only), with restrictions applying during school days / hours as follows:

"P5 8:00am – 9am 2:30pm – 3:30pm School Days

(i) **Notes** that staff will update the Schedule of Parking Restrictions upon completion of the works.

(j) **Notes** that there is an existing mobility park on Marshall Street outside Southbrook School that is not currently on the Schedule of Parking Restrictions. This will be added to the schedule in conjunction with the other proposed parking restrictions associated with this report.

3. BACKGROUND

3.1. The Innovating Streets trial with Waka Kotahi installed temporary crossing points along Marshall Street and painted roundabouts at intersections with Denchs Road and Torlesse Street. While no changes were made to traffic directions on Marshall Street, right turns from Denchs Road to Southbrook Road were banned under the trial.

3.2. The project to signalise the intersection of Southbrook Road and Torlesse Street also included provision to carry out school safety works on Denchs Road, and Marshall Street which resulted in a one-way movement these streets, exiting on to Torlesse Street.

3.3. The Road Safety Audit (RSA) for the traffic signal project recommended that a School Travel Plan (STP) be implemented for the Southbrook School.

3.4. Previous report (Trim 220808134686) sought approval of the School Travel Plan, and authorised staff to meet with the school to implement the plan, which was prepared by Abley Transportation consultants.

3.5. Previously, the Pick-up / Drop-off location for Southbrook School was located on Torlesse Street. To promote the use of the one-way system, this was temporarily relocated into Marshall Street while the permanent solution was developed.

3.6. Waka Kotahi's Transport Choices programme funding has been approved to support lower speeds and reduce conflicts and risk on streets around Southbrook School as part of the "Safe, Green and Healthy School Travel" category. The (estimated) $100,000 project is intended to formalise some of the changes trialled with the Innovating Street programme, as well as separate and improve staff carparking, parent drop-off/pickup, and walking/cycling access to the school.

3.7. In addition to the works planned on Marshall Street, the Rangiora New Life School have submitted a service request relating to the existing restricted time parking in Denchs Rd. Staff have considered this request, and are seeking to implement the requested changes in conjunction with the Marshall Street works.

4. ISSUES AND OPTIONS

4.1. Staff, as part of the Southbrook School Travel Plan Working Group, considered the following options for the Pick-Up / Drop-off location for Southbrook School:

4.1.1. Railway Road (north of Torlesse Street).

This option is not recommended as Railway Road north of Torlesse Street is "no exit" and therefore would result in parents conducting "U-turns" in order to exit. There is also a high likelihood that parents would continue to use either Torlesse Street or Marshall Street rather than Railway Road.

Further to the above, there is limited space in Railway Road, and this option would require the piping of the open drain.

4.1.2. Torlesse Street (Marshall Street to Railway Road)

This option reinstates the original Pick-up / Drop-off area outside the school; however this was recommended to be relocated to Marshall Street to promote the use of Denches Rd and Marshall Street as a one-way circuit, and allows drivers easy access back to Southbrook Road via the traffic signals.
Reinstating the Pick-up / Drop-off on Torlesse Street does not promote the one-way circuit and would lead to parents either conducting "U-turns" to access Southbrook Road via the traffic signals, or continuing along Railway Road, and accessing Southbrook Road via the PAK'nSAVE Car park.

4.1.3. Marshall Street (retain interim solution)

As part of the Southbrook signalisation project, an interim Pick-up / Drop-off area was marked on Marshall Street behind the angle parking. To mitigate the concerns of the Pick-up / Drop-off behind the angle parking, the school have instructed their staff to use this parking, leaving the angle parking on Torlesse Street available for visitors. This reduces the likelihood of conflicts within the area behind parked vehicles.
This option however is still not recommended due to the potential conflict between reversing vehicles and vulnerable pedestrians, and the lack of footpath outside the school at this location.

4.1.4. Marshall Street Alternate Design (recommended option)

This option reduces the length of the Pick-up / Drop-off area on the eastern side of Marshall Street to eliminate the conflict area behind the angle parking. To help

off-set the reduction in area available for use, the proposed design allocates limited time parking on the western side of Marshall Street for those parents that wish to park and walk their child into the school.

The recommendations from the Abley School Travel Plan indicate 6 – 8 parks should be adequate for a Pick-up / Drop-off area. The proposed design allows for 6 x high-turnover Pick-up / Drop-off spaces (Parking for 5 minutes), and further 6 x P15 parking spaces for this purpose.

Further to this, the recommended option relocates the angle parking away from the school building to allow for a footpath connection, and also a new length of kerb and channel and footpath to connect to the existing footpath, north of the school.

4.2. There are implications on community wellbeing by the issues and options that are the subject matter of this report. The proposed changes help promote active transport options to the Southbrook School by providing additional footpaths to the school, while promoting safe driver behaviour within the designated children pick-up / drop-off area on Marshall Street.

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

5. COMMUNITY VIEWS

5.1. Mana whenua

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

5.2. Groups and Organisations

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

The Southbrook School has representatives within the Southbrook School Travel Plan Working Group, and have provided feedback on the recommended option, which has been taken into consideration and changes made to the design.

For the changes on Denchs Road, there is no impacted residents, and this change will ensure these parks are kept free for pick and drop off associated with the school, and ensure parks are available for the pre-school during other times. There are no impacted residents on Denchs Rd.

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, however the residents directly opposite Southbrook School on Marshall Street were approached to seek their feedback in relation to the proposed restricted time parking outside their properties.

Two property owners did not have any concerns with the proposal, while the third was issued letters (attachment iii). The first letter provided a date to respond, and the owner did not made contact. A second follow-up letter was also issued.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

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

This project has a cost estimate of $86,000.

There is budget of $150,000 within PJ 102126.000.5133. There is sufficient budget for the works to proceed to tendering upon acceptance of the design.

6.2. **Sustainability and Climate Change Impacts**

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

The inclusion of the footpath extension will help to promote the use of active transport modes for children to walk to school.

6.3 **Risk Management**

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

Staff approached all impacted residents on Marshall Street to discuss the parking restrictions outside their properties. As a result of this, the length of restricted parking proposed was reduced.

There was a resident that staff could not get hold of. Staff sent two letters to this resident (attachments iii and iv) and still received no response.

6.3 **Health and Safety**

There are and safety risks arising from the adoption/implementation of the recommendations in this report as the existing interim Pick-up / Drop-off location is located behind the angle parking which poses a significant hazard to children who may be standing or walking behind parked vehicles. At present, this risk is mitigated by ensuring staff use this parking area so that there should not be manoeuvring vehicles during pick-up and drop-off times.

The proposed design separates the pick-up / drop off parking, removing it from behind the angle parking. Regardless, children may still be moving about these areas and as such there will be a remaining risk.

Staff, following discussions with Waka Kotahi, had proposed to update the angle parking to reversing in (rather than the current layout included within the scheme design for approval). Reverse angle-parking is considered to be much safer as drivers will have visually checked the parking space is clear before reversing into in, so they will know there is no children behind the vehicle. A driver reversing out of a park is less likely to have physically checked behind their vehicle before getting into their car and reversing out of a parking space, and instead rely on a reversing camera or mirror to check the space behind their vehicle which has significant safety drawbacks.

The school Principal and Board discussed this alternative and have advised they did not support this and would prefer the angle parking to remain as it is now, requiring drivers to reverse out of the parking space. The proposed design therefore retains the angle parking on the existing angle (i.e forwards in, reverse out).

It should be noted that the angle parking, and the issue of reversing in vs reversing out, was not raised within the independent Road Safety Audit.

7. CONTEXT

7.1. **Consistency with Policy**

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

7.2. **Authorising Legislation**

Local Government Act 2002

7.3. **Consistency with Community Outcomes**

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

There is a safe environment for all

- Harm to people from natural and man-made hazards is minimised.
- 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 transportation system 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.

7.4. **Authorising Delegations**

The Community Boards are responsible for considering any matters of interest or concern within their ward area and making a recommendation to Council.

The Utilities and Roading Committee have the Delegations to accept this report, and approve the changes proposed outside Southbrook School, while the District Planning and Regulation Committee have the Delegations to accept this report and approve the time restricted parking zones.

School Travel Plan – Southbrook School

BOT Draft - 20 June 2022

Southbrook School
Mātauranga, Āhuatanga, Whanaungatanga

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Appendices

Appendix A. Travel Survey Template

School Travel Plan – Southbrook Primary School

Quality Assurance Information

Prepared for	Waimakariri District Council
Job Number	WMKDC-J111
Prepared by	Daisy-Bea Scrase, Graduate Transportation Planner
Reviewed by	Penny Gray, Principal Transportation Engineer

Date issued	Status	Approved by
3 June 2022	Draft	Penny Gray, Principal Transportation Engineer
22 June 2022	Draft BOT	Penny Gray

1. Introduction

1.1 Why develop a school travel plan?

Travel plans encourage safe, healthy, and sustainable travel options. By reducing car travel, travel plans can improve health and wellbeing, free up car parking spaces, reduce congestion on the roads, and make a positive contribution to the community and the environment.

Southbrook Primary School have engaged with Waimakariri District Council and Ableyto create a travel plan which will help the students use more active modes and reduce congestion around the school.

There are a number of roading works planned for the roads around Southbrook School that will significantly change how people access the school site. It is proposed that Torlesse Street / Southbrook Road will become a signalised intersection. This will create new signalised crossing points across Southbrook Road which will allow better crossing opportunities. It will also be easier for drivers to turn right out of Torlesse Street. As part of this upgrade, Denchs Road and Marshall Street will become one-way streets. This will change the circulation of vehicles around Southbrook School.

1.2 The Southbrook Road / Torlesse Street Intersection Project

Southbrook Road is the busiest road in Rangiora and the Waimakariri District Council are focused on improving safety for all road users along this corridor. The projects focus is on improving the safety for children and cyclists, managing traffic flow and improving access onto side streets.

To improve safety in the area the Southbrook Road, Torlesse and Coronation Street intersection, which is heavily used by school traffic, will change to a signalised intersection. The signalised intersection will allow traffic from Torlesse and Coronation Street to safely turn left and right onto Southbrook Road.

As part of this project Denchs Road and Marshall Street will become one way. This will change the flow of traffic around the school and allow more on-street parking. A new drop off and pick up (PUDO) area can be installed on Marshall Street on the school side. It is hoped that this zone will become an attractive drop off zone to use and the use of the Torlesse Street PUDO zone will decrease. A raised courtesy crossing will be installed across Marshall Street and Torlesse Street to help children safely cross the roads to school.

Key changes for Southbrook School include;

- Denchs Road and Marshall Street becoming one way.
- Removal of kea crossing on Southbrook Road. The signalised pedestrian crossings at the Torlesse St/Southbrook Road intersection will provide students with a safe place to cross.
- Raised courtesy crossing on Marshall Street near Torlesse Street intersection
- New PUDO created on Marshall St

1.3 Our School

Site Location

As shown in Figure 1-1, the school site is located in Southbrook, on the south side of Rangiora. The site is located south of South Belt; east of Southbrook Road; north of Torlesse Street and west of the railway line.

Figure 1-1 Site Context

1.4 Number of staff and students

Southbrook Primary has approximately 310 students from new entrants to year 8 and 29 staff on site. Figure 1-2 shows that the catchment area for the school, although out of zone enrolments are considered on an application basis. Due to the catchment area extending into the semi-rural areas it is expected that some students will travel along roads with limited pedestrian or cycle infrastructure.

Staff generally come from the wider Canterbury area.

Figure 1-2 School Catchment Area

2. Travel Choices

Walking / Cycling / Scooting to School

Walking, cycling and scooting to school are the healthiest and cheapest ways for children and accompanying adults to travel to school. Walking, scooting and cycling to school will be promoted through the travel plan. Due to the location of the school a number of children walking/cycling/scooting to school will need to cross busy roads with high traffic volumes. It is important that parents, caregivers and school staff educate children to have safe crossing practices.

The roads surrounding Southbrook School have mainly good footpaths for walking and scooting. The key roads are Southbrook Road, Denchs Road, Marshall Street and Torlesse Street as shown in Figure 2-1. There are marked cycle lanes on Southbrook Road but there are no other cycling facilities in the surrounding area. The cycle lanes on Southbrook Road would only be suitable for confident cyclists to use, given the high traffic volumes, parked cars and turning movements from the side roads. Additional cycle infrastructure for the interested but concerned cyclists would be better suited for encouraging primary school children to cycle to school.

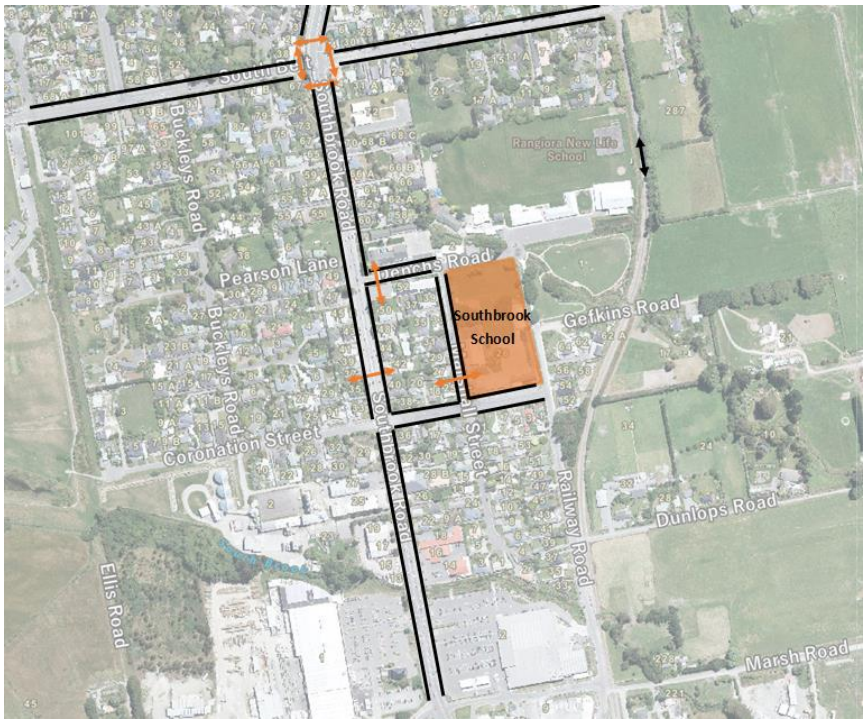


Figure 2-1 Local pedestrian facilities

Southbrook School has four pedestrian access points as shown in Figure 2-2. The entrances off Marshall Street and Torlesse Street are the main entrances to the school. The entrance off Gefkins Road is mainly used by new entrants.

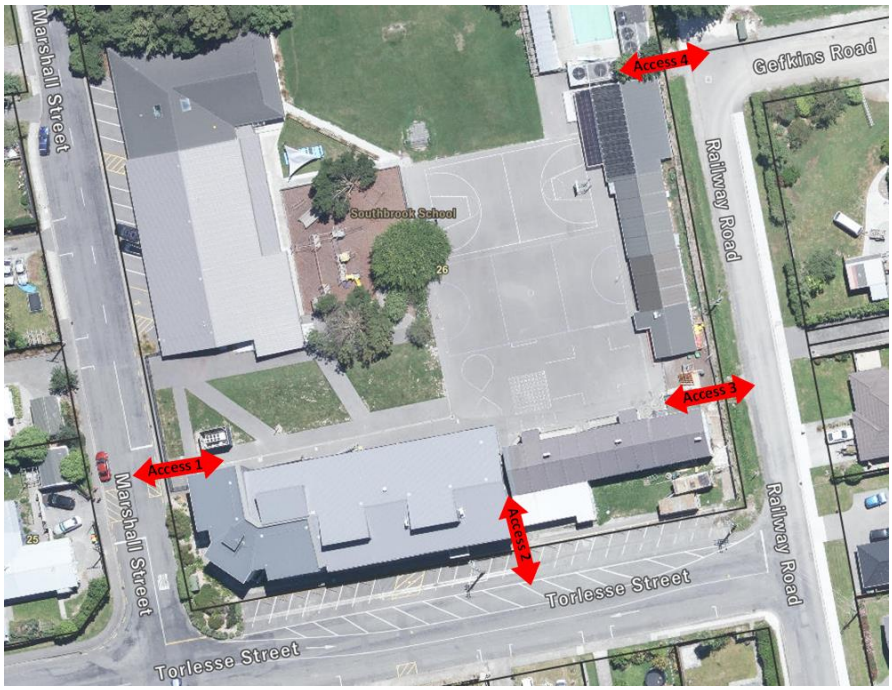


Figure 2-2 School Access for Pedestrians/Bicycles/Scooters

Cycle and Scooter Parking

Presently there is sufficient cycle and scooter parking at the school. In the future this may need to be reviewed if cycle and scooting significantly increases.

Car Parking/Vehicle Drop-off Provision

There is a dedicated PUDO zone on Torlesse Street that allows for informal drop off behind staff car parking, as shown in Figure 2-3. Marshall Street and the rest of Torlesse Street have on street parking with no time restriction and are used for school pick up and drop off.

Figure 2-3 Torlesse Street PUDO

With the changes to the surrounding road network a new PUDO can be created on Marshall Street. It is hoped that this new PUDO area will decrease the use of the Torlesse Street PUDO.

Buses

There is no school bus service to Southbrook School but there is one public bus, Route 1 which runs from Rangiora, down Southbrook Road to Christchurch (Figure 2-4). There is a bus stop on Southbrook Road approximately 300m from the school. However, school buses use this area as New Life School has school buses.

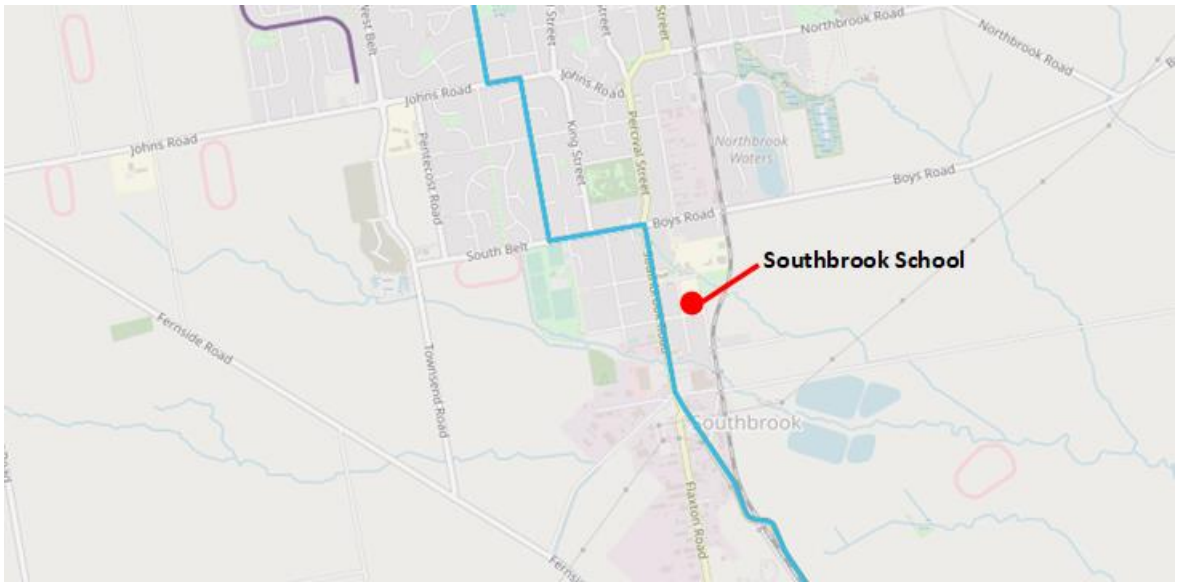


Figure 2-4 Bus routes near Southbrook School

Park and Walk

Creating a safe environment outside of the school entrance is paramount to encouraging more walking, scootering and cycling to the school. If children arrive by car, parents and caregivers should be encouraged to park further away from the school entrance and complete the journey on foot with their children walking, cycling or scooting. This has the benefits of avoiding driving and stopping around the school gates at the busiest times of the day while introducing physical activity in everyone's routine.

3. Travel Survey

3.1 How do we currently travel?

In May 2022 parents and caregivers were asked to partake in an online travel survey. A total of 57 people completed the survey accounting for 96 Southbrook School students (31% of school roll). Of the survey respondents there was relatively equal representation across the school year groups. All survey respondents were asked to indicate which area they live within. As seen in Figure 3-1 many students live in area 6 and out of zone to the north. This shows that many students have to cross South Belt or Southbrook Road on their way to and from school.

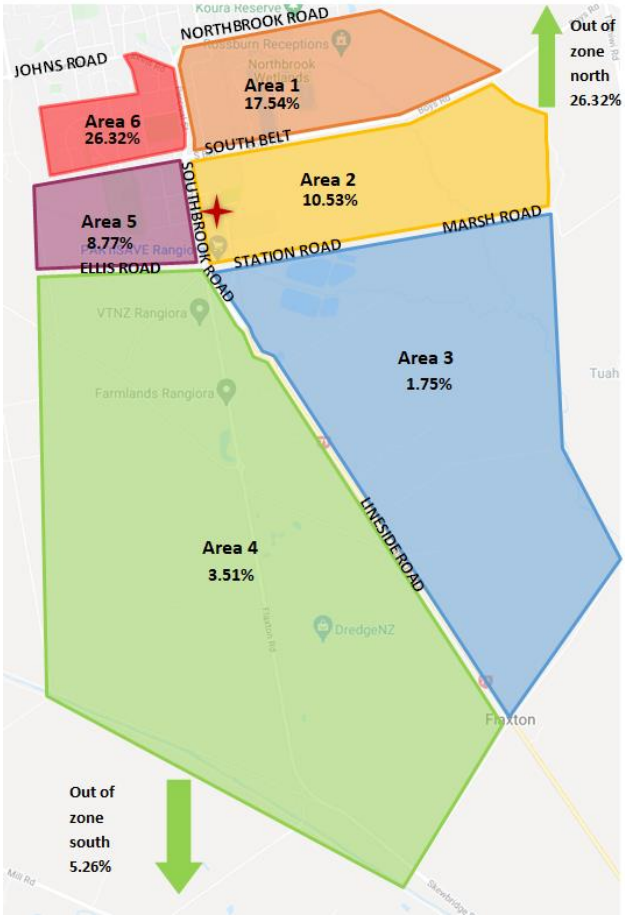


Figure 3-1 Where Southbrook School students live

3.2 Getting to and from school

Throughout the school week the mode of transport generally is the same for students at Southbrook, as shown in Figure 3-2.

The predominant transport mode to school is the car. The results show an average of 64% students get dropped to school by car each day. The results showed a good uptake in walking with an average of 17% of students walking each day. Public transport use is low which is to be expected for this size of town with limited public transport and the school age group.

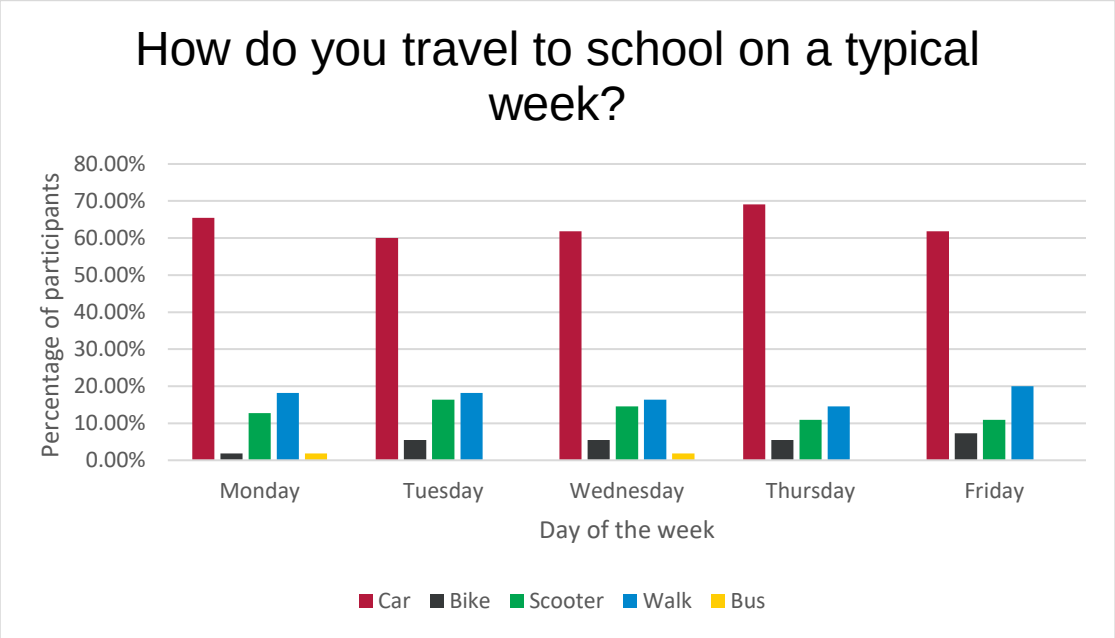


Figure 3-2 How Southbrook School students travel to school

From the survey results the mode split for the school can be estimated. Table 3-1 shows current mode split and the desired mode split. Increasing the number of students travelling to school by cycling, scooting, walking and public transport will meet the goals of the travel plan.

Walking school buses are often used by schools to increase the number of children walking to school. Walking school buses rely on an enthusiastic parent cohort to run the scheme. When asked in the survey if the parents and caregivers of Southbrook School children would use a walking school bus service 52% said no, 22% said yes and 26% were unsure. Therefore, it is not considered that a walking school bus is a viable option for Southbrook School at present.

Table 3-1 Comparison of current and desired mode splits

	Car	Bike	Scooter	Walk	Bus
Actual mode split	64% (199 students)	5% (15 students)	13% (40 students)	17% (53 students)	1% (3 students)
Desired mode split	50% (155 students)	8% (25 students)	15% (47 students)	26% (80 students)	1% (3 students)
Number of students to change mode	-44 students	+10 students	+7 students	+27 students	same

When asked why parents and caregivers drive their children to school there were multiple reasons, including:

- multiple drop offs needed/trip to work,
- the age of children makes driving the easiest and most convenient mode,
- poor weather making people use their car and
- safety issues of crossing main roads.

3.3 Pick up and drop off around the school

Most parents and caregivers use the Torlesse St pick up/drop off (PUDO) zone to drop their children at school (see Figure 3-3). Marshall Street and Railway Road were the next two most popular PUDO areas. Other locations used for PUDO were found to be the south end of Marshall Street (cul-de-sac end), Southbrook Road and Coronation Street. One respondent commented on the dangerous driving behaviour at school drop off and pick up time with drivers not giving way at the Torlesse Street and Railway Road intersection.

Approximately 96% of respondents felt that congestion outside of Southbrook School is an issue at pick up and drop off times.

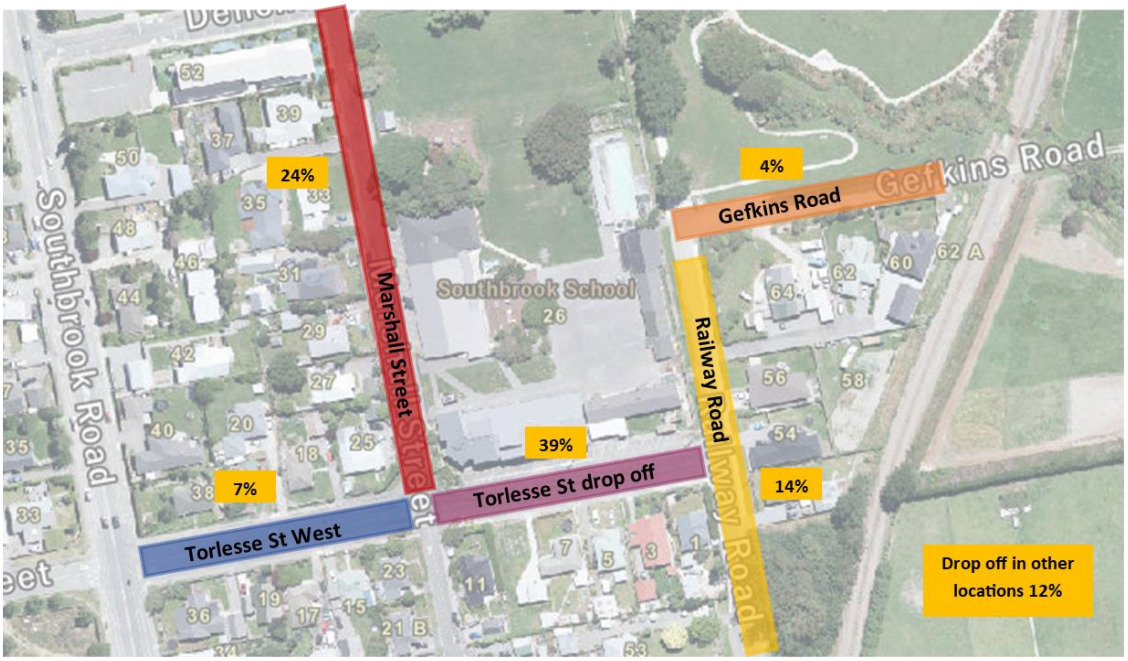


Figure 3-3 Drop off locations around Southbrook School.

3.4 Crossings around the school

The most highly used crossing is the Southbrook Road/Southbelt signals with an average of 22% of children using the signalised crossing to and from school. Other crossings around the school had a relatively equal split of use. Results show that the Marshall Street kea crossing is well used in the afternoons.

3.5 School accesses

To understand how parents, caregivers and children access the school grounds respondents were asked which entrances they regularly used.

A total of 47% respondents indicated that they use the Torlesse Street (access 2) entrance which coincides the high usage of the Torlesse Street PUDO area.

A total of 37% respondents indicated that they used access 1 on Marshall Street which lines up with the kea crossing which runs in the afternoons.

The other accesses have a lower percentage of children using them which is consistent with their location.

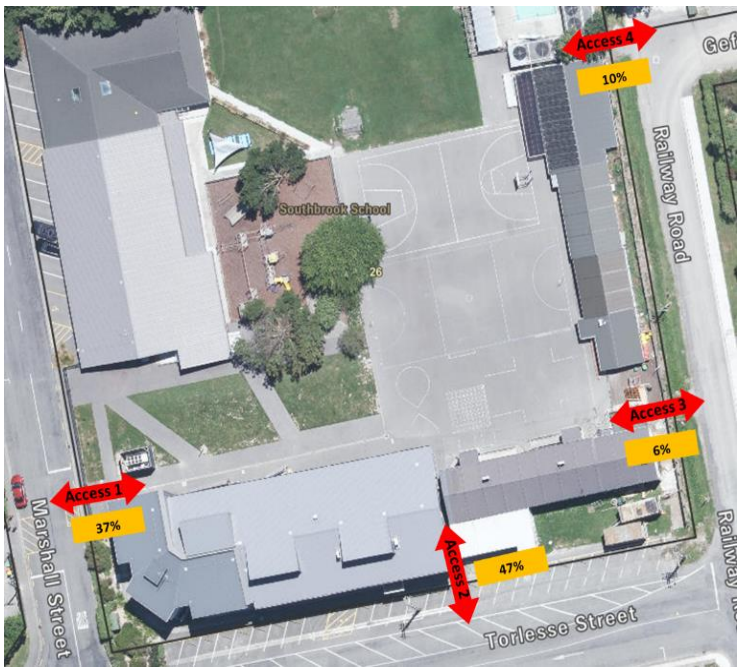


Figure 3-4 School access points.

3.6 School trip safety

When asked to rate their child's safety on their way to school a third of respondents rated the journey as safe. As shown in Table 3-2 many respondents were neutral about the safety on the way to school or felt it was unsafe.

Table 3-2 School trip safety

	Very unsafe	Unsafe	Neutral	Safe	Very safe
Safety rating	9.26%	22.22%	29.63%	33.33%	5.56%

Considering children's safety, respondents were asked what improvements could be made to improve safety on their trips to and from school. The main changes which could be made to make travel to school safer would be:

- installing a signalised crossing on Southbrook Road.
- lowering speeds around the school with a reduced speed zone or speed bumps
- creating a one-way system around the school.
- providing more parking and better drop off zones
- providing a cut through road which take people back to Rangiora avoiding Southbrook Road.

3.7 Awareness of upgrades and changes around the school

This travel plan can assist the school with the road upgrades occurring around the school in the next year. These changes include a signalised intersection being installed at the Torlesse Street/Southbrook Road intersection. With this intersection upgrade Denchs Road and Marshall Street will become one way, changing the way traffic flows around the school.

Only 46% of respondents were aware of this planned upgrade. The change to one way traffic flow and the signalised intersection means that the new PUDO on Marshall Street will become more attractive as parents and caregivers will be able to turn right out of Torlesse Street. The survey showed that 42% said they would use the new drop off zone on Marshall Street, 33% said they would not and 25% said that they were unsure.

4. What are we trying to achieve?

4.1 Aims and objectives

The aim of this travel plan is to change how students are travelling to and from school and encourage them to use more active modes. As shown above in Table 3-1 to achieve our desired mode split approximately 44 students need to switch from using a car to using an active mode to get to school.

The following table identifies our aims and objectives split into four categories; active, social, safe and sustainable, as well as the associated potential benefits. Importantly, barriers to reaching each aim and objective are identified and give an idea of areas where improvements are needed.

Table 4-1 Aims and Objectives

Aims and objectives	Expected benefits including who will benefit and how e.g. health and wellbeing	What barriers are there to our objectives?
Active Encourage physical fitness and healthy living of Southbrook School children. Children and parents choose to use active transport and walk or cycle to school	Health and wellbeing benefits: active children - resulting in maximised health and learning outcomes Minimised traffic congestion Less need for car transport	Many out of zone residential homes still a reasonable distance from the school. Many car users dropping children off to school on their way to work or elsewhere makes the car most convenient. Long term habits of car use.
Social Children and parents join with others as they walk or cycle to school. Engage the community in the ownership of the school travel plan	Health and wellbeing benefits: connected citizens Children interact with other children and adults as they journey to school Older children take on mentor roles Safety in numbers	Parents availability to support walking and cycling school buses Many residential homes still a reasonable distance from the school making active modes less desirable
Safe Reduce congestion and chaos at and near the school gates. Improve safety for the children on the roads surrounding the school. Children and parents feel safe walking or cycling to school. Children are aware of their surroundings and cross streets safely. Children and parents who walk or cycle to school do so confidently and safety.	Health and wellbeing benefits: nurturing sound road behaviour - for children, and adults. Older children take on safety patrol leadership roles.	Due to Southbrook Road being the main access road in Rangiora it has large volumes of traffic. Multiple schools in the area resulting in high numbers of cars and pedestrians navigating the road network.
Sustainable Promote active modes of transport. Increase the number of children and parents walking, scooting, or cycling to school	Health and wellbeing benefits: active connected, and safe children - resulting in maximised health and learning outcomes Environmental benefits: traffic is minimised	Not having the necessary infrastructure in place to encourage all active modes (limited cycle lanes and limited public transport connection)

5. The Travel Plan

5.1 What we plan to do

What are we already doing?

Southbrook School already complete a number of activities that encourage active travel to the school. These include:

- Cycle Safety Training.
- Walk or wheel to school day/week
- SOUTHBROOK TO FILL IN OTHER INITIATIVES

Action Plan

Targets are necessary to drive actions. Considering the benefits of alternatives to car use but also of student's preferences, targets need to reflect an ambition to increase active travel and reduce car use.

Table 5-1 outlines the proposed travel plan actions for Southbrook Primary School, Waimakariri District Council and the wider stakeholders.

Table 5-1 Travel Plan actions

Action	Timescales for completion	Who is involved/responsible
Create and implement travel plan		
Approve the travel plan	Term 4 2022	School management & Waimakariri District Council
Nominate a staff member or member of the community to take on the role of travel plan coordinator	End of Term 4 2022	School management
Publish survey results and travel plan to parents and students. Have a feature in the school newsletter.	Start of Term 4 2022	School management
Create a school travel page on school website for all initiatives and communication.	End of school year 2022	School management
Produce information sheets for families on parking areas, changes, suggested behaviours, and active travel	Immediately after upgrade completion	Waimakariri District Council & School management
Complete a travel survey 6 months after the completion of the upgrades around the school and revaluate the school travel plan.	6 months post upgrade completion	School management & Waimakariri District Council
For the school		
Prepare consistent and culturally considerate road safety and active transport messages to the community. Plan curriculum initiatives to promote road safety and active travel awareness in detail (which activities, on which days, in which classes etc). This can include:	Start of school 2023 - Ongoing	School management

▪ Pedestrian/Cycling/Scooting safety training – community Police ▪ Health and Physical Education classes centred on active travel		
Create an interim PUDO zone on Marshall Street	In conjunction with intersection upgrade works	Waimakariri District Council
Create permanent PUDO zone on Marshall Street with consideration to safe parking vehicle movement, pedestrian safety and connectivity following discussions with the school	Following allocation of budget in the LTP	Waimakariri District Council
Remove existing Torlesse Street PUDO zone	In conjunction with intersection upgrade works	Waimakariri District Council
Participate in a walk or wheel to school week/day annually	Start of school 2023 - ongoing	School Management & student leaders
Promote active modes at school and create a recognition system for students.	Ongoing	School Management & student leaders
Provide cycle safety training for Year 6 students	Ongoing	Waimakariri District Council & School Management
Engage with community Police to facilitate school road saftey programmes	Ongoing	School Management & local community Police
Have PUDO wardens (possibly Council parking wardens) to monitor the driving behaviour at the new Marshall St PUDO for the first fortnight	First fortnight immediately after upgrade completion	Waimakariri District Council, local community Police & School Management
Operate Marshall Street kea crossing in mornings and afternoons	Immediately after upgrade completion – ongoing	School Management
Include regular information in the school newsletter on active, sustainable travel. For examples, profiling different families using sustainable and active modes to get to school.	Ongoing	School Management
Provide new families with information about travel options to school and the schools travel plan	Ongoing	School Management
For the community		
Install a permenant 30kmph speed limit around the School in conjunction with intersection upgrades as part of the Setting of Speed Limits Rule change	In conjunction with surrounding upgrades, as soon as practicable	Waimakariri District Council
Run a ‘Park Smart’ programme to encourage a safer and less stressful parking environment with community police. Provide parking education and reinforce safe parking practices over a fortnight.	Immediately after completion of school safety work	Waimakariri District Council, Police & School Management
Identify and promote suitable locations for parking and walking to school to promote active travel to the school and reduce congestion at the school gate.	Term 1 2023	School Management

Further options for encouraging walking and wheeling to school

- Build a bike and scooter shelter
- Walk/bike/bus to school maps
- Classroom challenges
- Frequent walker scheme
- Cycle or bus miles
- Buddy programme
- Set walking day
- Feet first
- Active travel tree
- Active transport breakfast, smoothie station or walk to support activity

Resources which can be used in school

NZTA's Road Safety teacher resources: https://education.nzta.govt.nz/teacher-resources/school-policy-and-practices/

Bike Ready: https://www.bikeready.govt.nz/schools/

Bike On (bikes in schools programme): https://bikeon.org.nz/

NZ Police School Portal: https://www.police.govt.nz/advice/personal-and-community-advice/school-portal

6. Monitoring and Review

It is important that the school travel plan is regularly reviewed. Each update should include a review of the objectives and action plan. To track progress, an annual travel survey should be completed. However, it is recommended that another travel survey is completed after the roading changes are implemented around Southbrook School.

A copy of the template travel survey is supplied in Appendix A. The survey may be adapted to include location specific questions as required.

In order to ensure the Travel Plan is implemented and reviewed, the school should have an appointed Travel Plan Coordinator at all times. This can be any member of staff wishing to champion the approach.

The current Travel Plan Coordinator is:

On an annual basis, the Travel Plan Coordinator will manage the Travel Plan Monitoring by following these steps:

1) The Travel Survey Questionnaire will be distributed to parents/caregivers for them to fill out (survey monkey is a free survey service).

2) The School will analyse survey results against previous results and against targets.

3) The School will review progress in implementing the actions set out in the Action Plan.

4) The School will update the Action Plan with new or different actions in order to meet targets.

The first survey, carried out in May 2022 is the baseline survey. These results will be used to set targets. Once the baseline is established, this Travel Plan will be updated with the survey results but also with clear targets for:

- the proportion of students driven to/from school in single family cars, aiming for a decrease from the baseline.

Travel Survey Methodology:

- The parents/caregivers survey questionnaire developed by Ableyis to be used every year to allow comparing results year on year.
- In-classroom desired mode surveys can consist of either hands-up counts or of asking every student individually about their preferred travel mode. Only one answer per student.
- Together, these surveys will generate data to be summarised by the School in the following outputs:
    - Graph of how people travel to and from school
    - Parking / drop off location for staff and parents
    - Reason for current travel mode
    - Other modes interested in and/or how students would prefer to travel
    - Main reason why they don’t travel by an active mode.

Appendix A. Travel Survey Template

Q1 I am a parent/caregiver of a child at Southbrook Primary and by completing this survey I agree that the answers I provide can used to create the school travel plan.

Yes

No

Q2 How many children do you have attending Southbrook Primary?

1

2

3

4

5

6+

Q3 What year is/are your child(ren) in at school?

Year 0

Year 1

Year 2

Year 3

Year 4

Year 5

Year 6

Year 7

Year 8

Q4 Looking at the image below, please indicate which are you live within?

Area 1

Area 2

Area 3

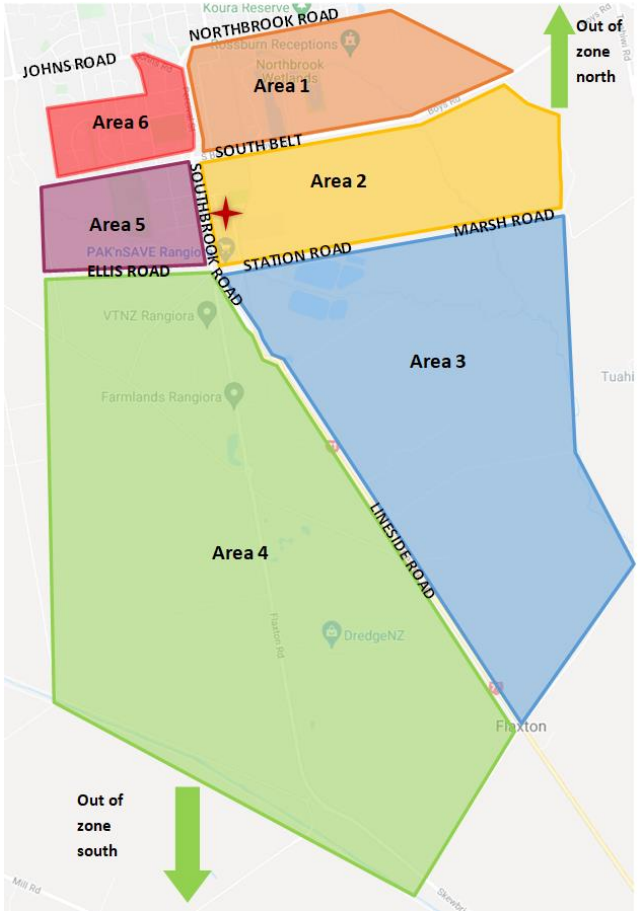
Area 4

Area 5

Area 6

Out of zone (North)

Out of zone (South)



Q5 On a typical week how do you travel to school?

	Car	Bike	Scoter	Walk	Bus	Total
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						

Q6 If you drive, why do you drive your child(ren) to school? Select all that apply

Convenience

Age of children means driving is easier

Multiple drop offs needed/trip to work

There isn't a safe route to cycle or walk to school

The distance to school is too great walk or cycle

Other (please specify)

Q7 If you drive, where do you pick up/drop off? Select all locations which you use (see image below).

Torlesse St drop off zone

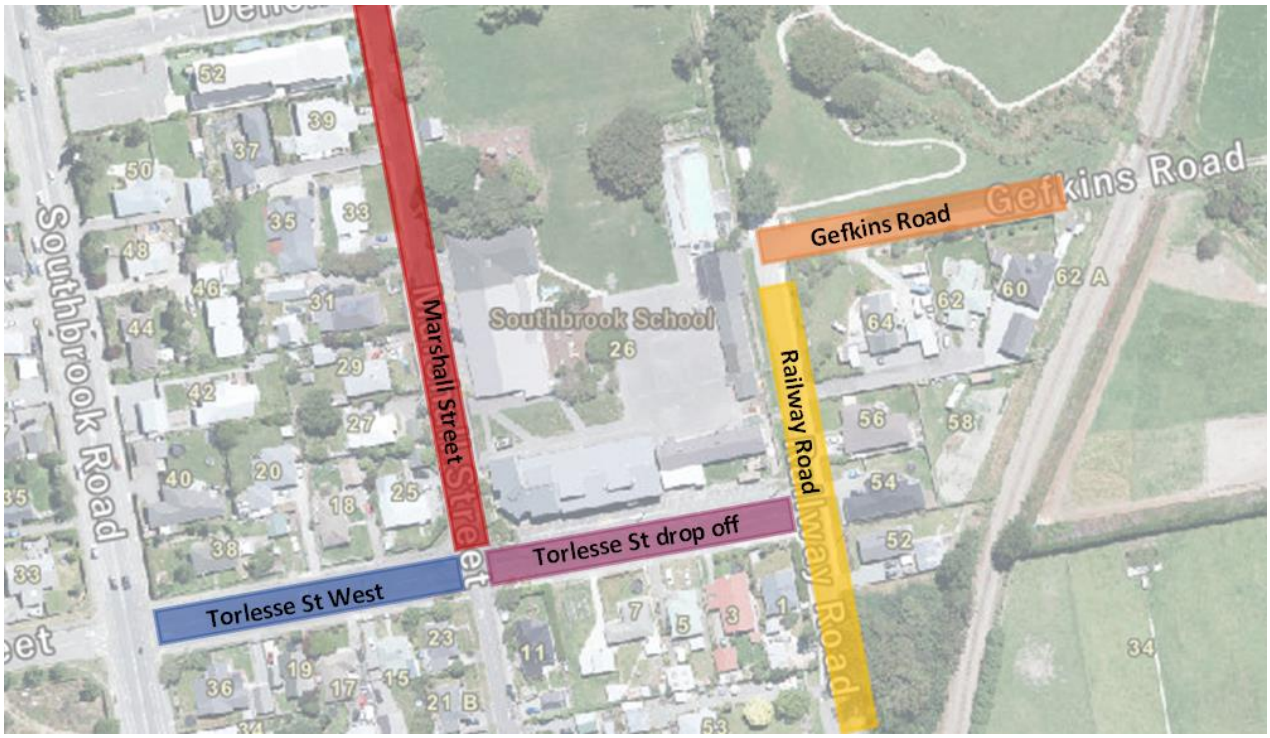
Torlesse St west

Marshall St

Railway Road

Gefkins Road

Other (please specify)



Q8 Which crossings do you use when travelling to school? (see image below)

Southbrook/Southbelt signals

Southbrook kea crossing

Denchs Road planter box crossing

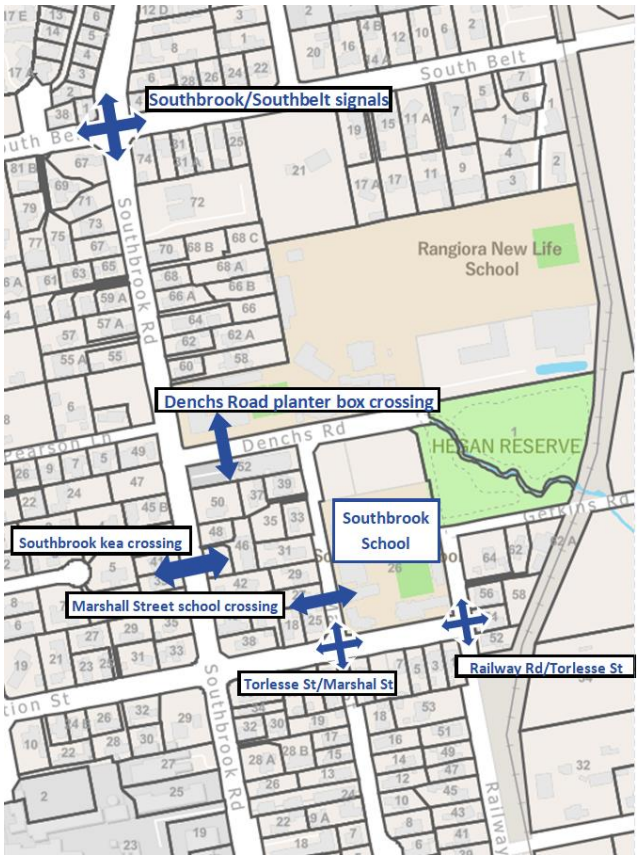
Marshall Street school crossing

Torlesse St/Marshall St intersection

Railway Rd/Torlesse St intersection

I don't use a crossing

Other (please specify)



Q9 Looking at the image below, which entrance to the school do you currently use? (see image below)

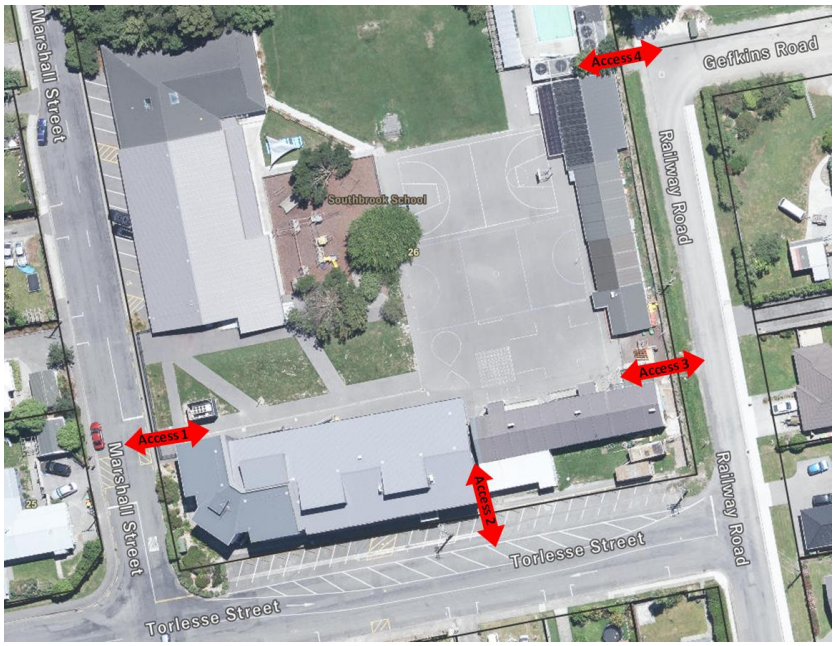
Access 1

Access 2

Access 3

Access 4

Other (please specify)



Q10 How safe would you consider your childs route to school?

Very unsafe

Unsafe

Neutral

Safe

Very Safe

Q11 Do you believe that congestion at the school pick up/drop off times is an issue?

Yes - all the the time

Yes - but only in the morning drop off

Yes - but only in the afternoon pick up

No - congestion is not an issue

Q12 What would make your child(ren)s trip to school safer?

Supervised crossings (Kea crossings)

Cycleways connecting the school

More footpaths around the school

Signalised crossing on Southbrook Road

No changes are needed

Other (please specify)

Q13 Would you use a walking school bus service? A walking school bus involves students with adult supervisors walking in a group to school. Each 'bus' walks along a set route with at least one adult 'driver' picking up children at designated 'bus stops' and walking them to and from school. Walking school buses are organised by the parent community.

Yes

No

Unsure

Q14 A new signalised intersection will be installed at Southbrook Road and Torlesse Street. This will allow traffic to turn right onto Southbrook Road and create signalised pedestrian crossings. With the upgrade Denchs Road and Marshall Street will become one way, changing the way traffic will flow around the school. Are you aware of this planned upgrade?

Yes

No

Q15 The changes to one way roads will allow us to install a drop off zone on Marshall Street (see image below). Would you use this new zone instead of the current Torlesse Street drop off area?

Yes

No

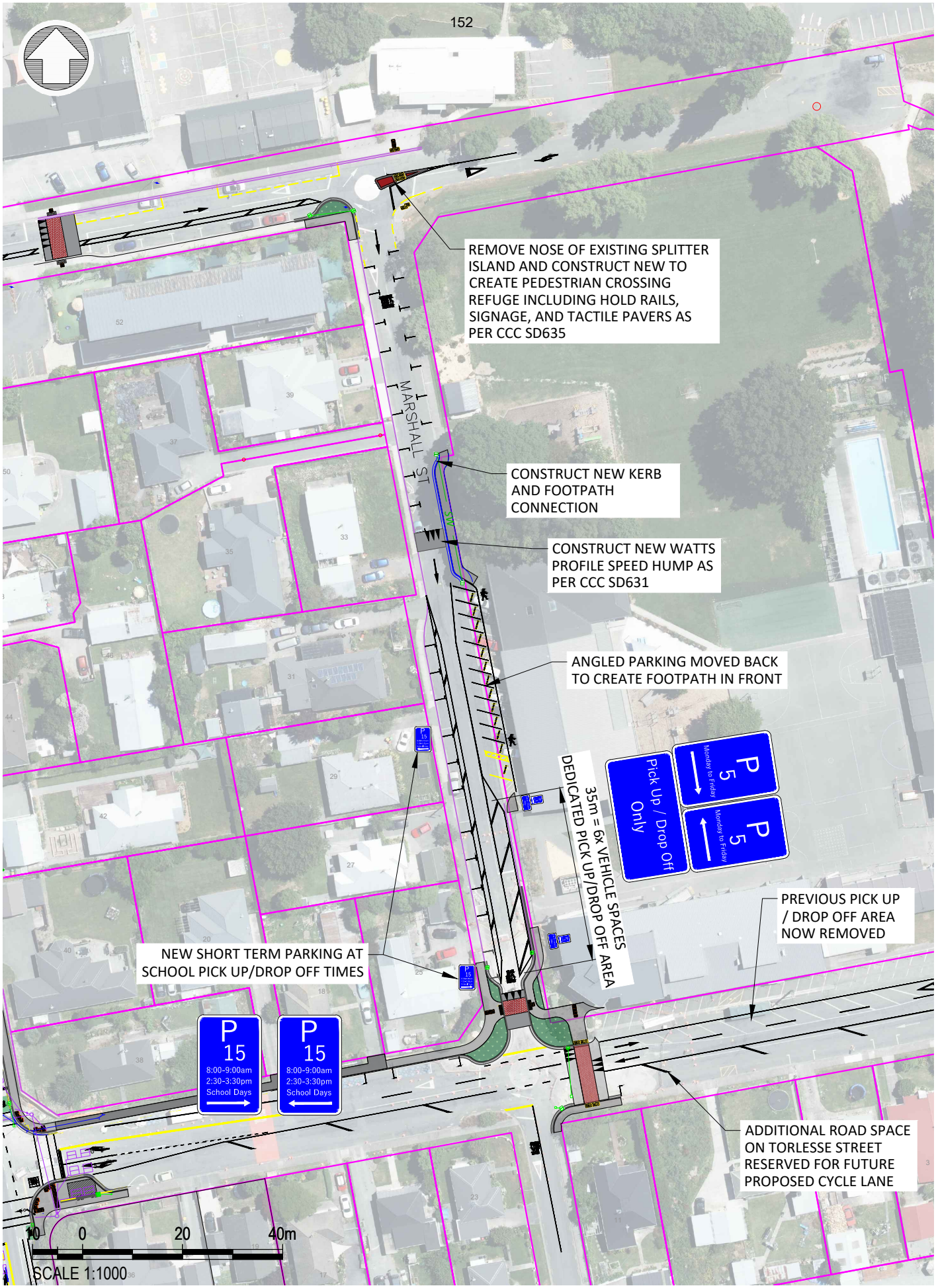
Unsure

Auckland
Level 1/70 Shortland Street
PO Box 613, Shortland Street
Auckland 1140
Aotearoa New Zealand

Wellington
Level 1/119-123 Featherston Street
Wellington 6011
Aotearoa New Zealand

Christchurch
Level 1/137 Victoria Street
PO Box 36446, Merivale
Christchurch 8146
Aotearoa New Zealand

hello@abley.com
+64 3 377 4703
abley.com



WAIMAKARIRI DISTRICT COUNCIL

SOUTHBROOK SCHOOL TRAVEL PLAN

PROPOSED PICK UP / DROP OFF AREAS

SCALE (A4)	DATE
1:1000	01/06/2023
DRAWING	4365
SHEET 1	REVISION A

PLOT DATE: 30/08/2023 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001691 - SOUTHBROOK ROAD IMPROVEMENTS\4 - DESIGN\DETAILED DESIGN\SOUTHBROOK TORLESSE\SOUTHBROOK DETAILED DESIGN - WORKING DWG.DWG

Waimakariri District Council
215 High Street
Private Bag 1005
Rangiora 7440, New Zealand
Phone 0800 965 468

Our Reference: RDG-32-79-05 / 230509066255

09 May 2023

Marshall Street
Rangiora 7400

Dear Hayley,

This letter is in regards to a site visit on 01 May 2023 at which time I (along with a colleague) spoke to your mother Marshall Street, Rangiora.

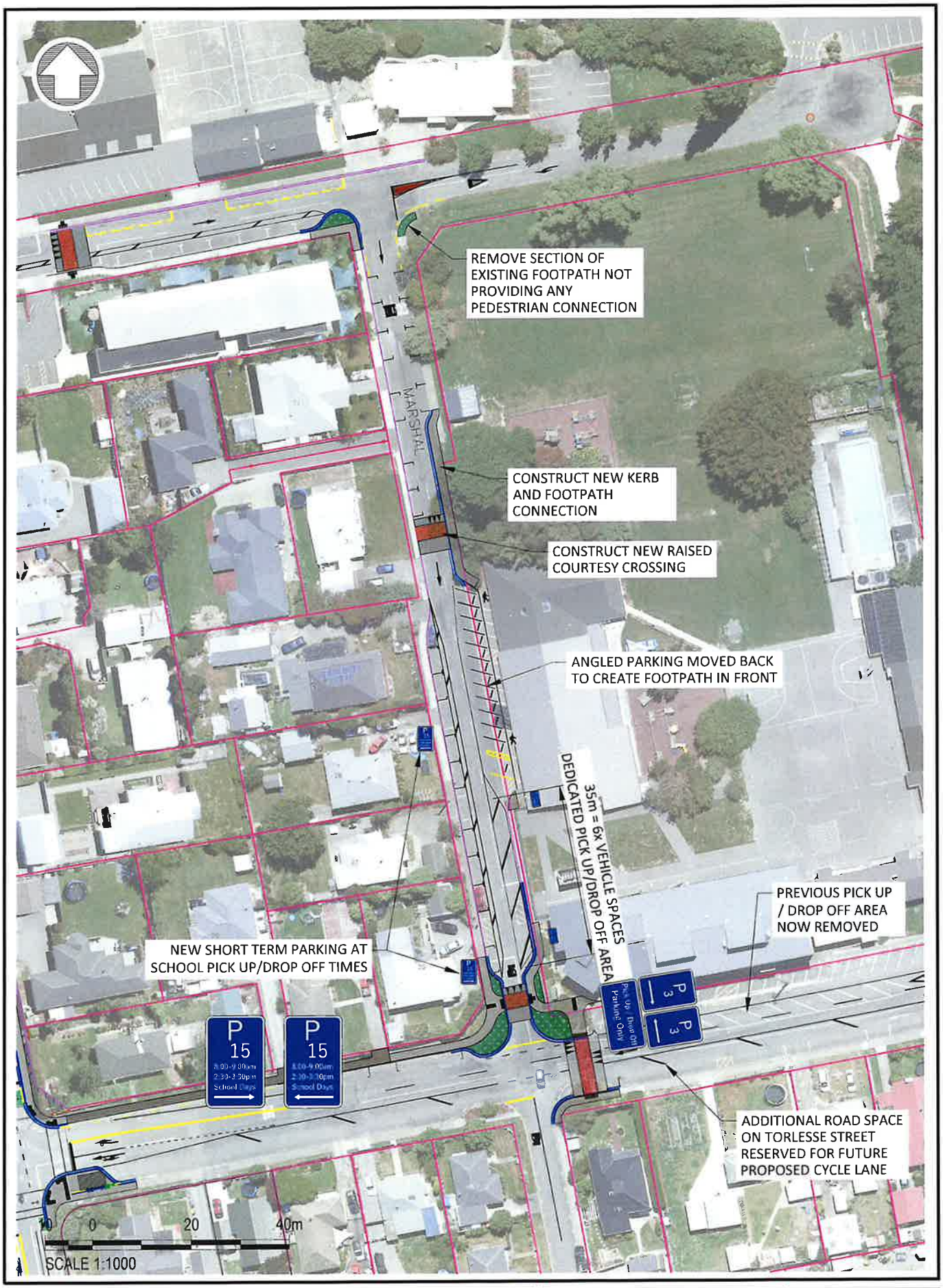
During this visit, the proposed parking changes on Marshall Street outside your property were discussed. As is not the registered owner of the property, we are obliged to advise you of the proposed changes which are in intended to improve road safety at the school pick-up, and drop off times.

The changes relate to the on-street car-parking on the western side of Marshall Street, outside No. 25, 27, and 29. These parking spaces will be posted with a "P15" during the hours of 8:00am – 9:00am and 2:30 – 3:30pm. It is intended that outside these hours you and / or visitors to your property will be able to utilise this parking. Please also note that restrictions would only apply to school days, and that parking on the Torlesse Street frontage will remain available, and un-restricted.

A copy of the proposed layout plan is attached for your information, and I invite you to provide me with any feedback you have by 19 May 2023 either by emailing kieran.straw@wmk.govt.nz, or calling on 021 794433.

Yours Sincerely,

Kieran Straw
Civil Project Team Leader



WAIMAKARIRI DISTRICT COUNCIL

SOUTHBROOK SCHOOL TRAVEL PLAN

PROPOSED PICK UP / DROP OFF AREAS

SCALE (A4)	DATE
1:1000	09/05/2023
DRAWING	4365
SHEET 1	REVISION A

PLOT DATE: 09/05/2023 FILE: S:\PDU\PDU JOBS\PD001600-1699\PD001691 - SOUTHBROOK ROAD IMPROVEMENTS\4 - DESIGN\DETAILED DESIGN\SOUTHBROOK TORLESSE\SOUTHBROOK DETAILED DESIGN - WORKING DWG.DWG

Waimakariri District Council
215 High Street
Private Bag 1005
Rangiora 7440, New Zealand
Phone 0800 965 468

Our Reference: RDG-32-79-05 / 230704100287

05 July 2023

Marshall Street
Rangiora 7400

Dear Hayley,

Following on from my previous correspondence (dated 9th May 2023), we have tried to make contact with you by door knocking at various times, on multiple occasions. We have however been unable to make contact, and we have also not had a response to my previous letter.

I am therefore proceeding to prepare a report to the Rangiora Community Board seeking to their approval to implement the planned changes on Marshall Street.

To recap, the changes relate to the on-street car-parking on the western side of Marshall Street, outside No. 25, 27, and 29. These parking spaces will be posted with a "P15" during the hours of 8:00am – 9:00am and 2:30 – 3:30pm. It is intended that outside these hours you and / or visitors to your property will be able to utilise this parking. Please also note that restrictions would only apply to school days, and that parking on the Torlesse Street frontage will remain available, and un-restricted.

The changes will likely take some time to come into effect, as we still require to get the works tendered before the changes can be made, however we would expect the changes to be completed towards the end of 2023.

You are still more than welcome to provide me with any comments or concerns you have by either by emailing kieran.straw@wmk.govt.nz, or calling on 021 794433.

Yours Sincerely,

Kieran Straw
Civil Project Team Leader

Kieran Straw

From:
Sent: Thursday, 3 August 2023 8:13 AM
To: Kieran Straw
Cc: Aaron Kibblewhite
Subject: Re: Marshall St Angle Parking

Mōrena Kieran

Our Board met last evening and we discussed the parking and footpath by the school hall.

We felt that the parking needs to stay as it is. Our reason being that backing into a carpark while on a one way would most likely cause more problems.
The Board felt if a small footpath could be constructed by the hall wall to the entrance gate without encroaching very much onto the parking space that would be great. If we take away too much length in the parking space it will then be even more difficult for trucks and buses coming down the one way - it is tight now.

I am happy to meet you on site at some stage to visually assess this.

Ngā mihi

Southbrook School
Rangiora

On Wed, Jul 19, 2023 at 4:39 PM Kieran Straw <kieran.straw@wmk.govt.nz> wrote:

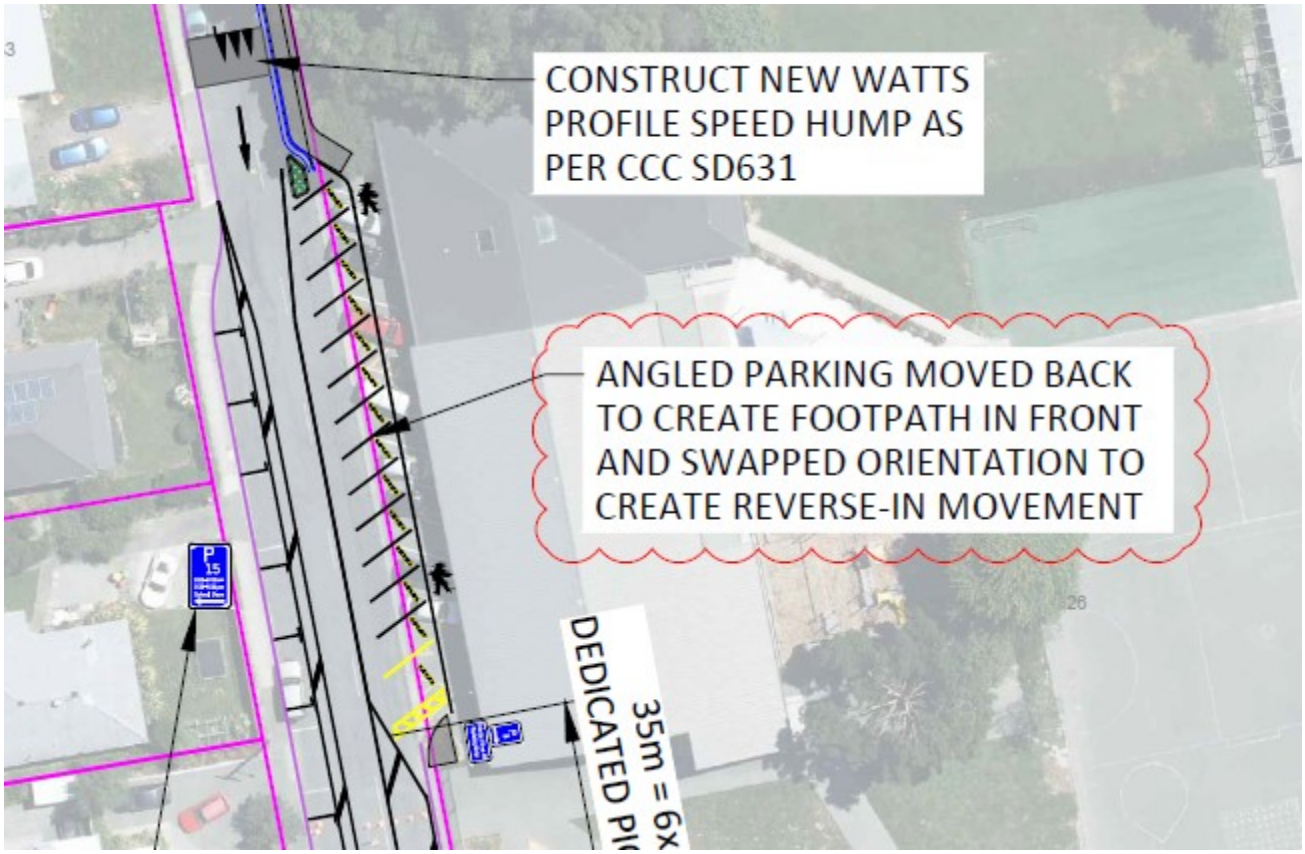
I hope you are well.

We have not progressed the Marshall Street proposed changes much at the moment due to other work commitments, but we have been chipping away at it in the background. As part of that, we have discussed the project with Waka Kotahi, and their safety representatives have suggested that we alter the existing angle parking layout so that the angle parks must be reversed into. To help you visualise the concept, Aaron has drawn up the proposal (attached, and a zoomed-in snip added below)

This option is preferred as there is a lot of evidence that supports that reversing into parking spaces is safer that reversing out of parking spaces. This is primarily because drivers will have visually checked the parking space is clear before reversing into in, so they will know there is no kids behind the vehicle. A driver reversing out of a park is unlikely to have physically checked behind their vehicle before getting into their car and reversing out of a parking space, and instead rely on a reversing camera or mirror to check the space behind their vehicle which has significant safety drawbacks.

Is this something that you can discuss with your board and let me know if the school supports this? There would be no reduction in parking spaces between the two options.

You will also notice that the previously suggested raised table crossing has been removed, and in it's place is a standard "watts profile" speed hump.



Regards,

Kieran Straw | Civil Projects Team Leader
Project Delivery Unit

Kieran Straw

From:
Sent:
To:
Subject:
Attachments:

Mōrena, Peter

I wonder if you are able to help me please, or direct me towards a person who has responsibility for the area of road signs?

On the East side of Denchs Road, Southbrook, there are five minute parking signs saying, “P.5. 2:30 to 3:30 pm School Days.” I wonder whether this can be extended by including the following please:
“P.5. 8:15 am to 9:00 am School Days.”

If either a bigger sign can be made or an additional sign attached to the existing pole, that would be very helpful.

There are three road signs at present.

As I am on duty on the Denchs Road ‘crossing’ Monday to Thursday every week, I see people parking for long periods of time, and also some are using it as day parks. I have spoken to the Primary staff at our school and asked them to consider using alternative parking spaces if the Primary car park is full.

The area is great as a quick drop-off area, and if the parking limit before school is five minutes, then it should help to keep the traffic flowing. Some people are using the bus stop as a drop off, and I am speaking to them when this occurs.

Thank you for considering this request.

Ngā mihi koa

Associate Principal
Rangiora New Life School
Ph:

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR INFORMATION

FILE NO and TRIM NO:	DRA-20-42-08 / TRIM 231006159247
REPORT TO:	OXFORD-OHOKA COMMUNITY BOARD
DATE OF MEETING:	8 November 2023
FROM:	Mark Henwood – Project Engineer Jason Recker – Stormwater and Waterways Manager
SUBJECT:	Oxford Stormwater Upgrade – Church Street Reserve
SIGNED BY: **(for Reports to Council, Committees or Boards)**	General Manager / Chief Executive

1. SUMMARY

1.1 This report is to update the Utilities and Roading Committee on progress of the investigation work for the Church Street Reserve (also referred to as Dominic's Reserve) in Oxford and seek approval of the proposed solution to alter the existing secondary flow path away from residential properties and into the Church Street Reserve which outlets to the road reserve.

1.2 The 189 High Street Report Concept Options Report (Attachment i) looks at various options to take flow away from near 189 High Street. These were options such as piping to Weld Street and providing drainage along Weld Street or piping to farmland by the Oxford Working Men's Club. Due to the cost of these options and the extent of the works required for a viable solution this was put on hold in favour of upstream works around the Church Street Reserve.

1.3 The Church Street Reserve works will involve upgrading the existing inlet into the swale, swale alterations in MainPower land to prevent secondary flow through private properties and formalisation of the spill point on to Church Street.

1.4 There is a separate project to conduct improvements at the A&P Showgrounds, with construction programmed for the 2024/25 financial year. This will provide an ultimate solution to the flooding experienced at 189 High Street due to re-directing the catchment into Pearsons Drain. The works at Church Street Reserve covered by this report address a minor improvement in the short term, and formalisation of flow pathways for the long term.

1.5 This is the first stage of stormwater improvement works in the Burnett Street and High Street area. It is compatible with the proposed Oxford Agricultural and Pastural (A&P) Showgrounds upgrades and an essential part of the total stormwater improvement works.

Attachments:

i. 189 High Street Report Concept Options Report – TRIM 220922165131
ii. Oxford Stormwater Investigations Memo – TRIM 221107193489
iii. Church Street Reserve Overview – TRIM 231030173160

2. RECOMMENDATION

THAT the Oxford-Ohoka Community Board:

(a) **Receives** report No. 231006159247.

AND

THAT the Oxford-Ohoka Community Board recommends:

THAT the Utilities and Roading Committee:

(b) **Approves** the proposed solution to formalise the secondary flow path in 58 Burnett Street away from residential properties and onto Church Street from Church Street Reserve.

(c) **Notes** that the secondary flow path will be altered to convey stormflows into the Church Street Reserve where it will drain to ground in moderate storm events. In large storm events the stormflow will spillover into Church Street which outlets into the road reserve.

(d) **Notes** that there is a separate project at the A&P Showgrounds, with construction programmed in the 2024/25 financial year. This project will mitigate the flooding issues experience at 189 High Street

(e) **Notes** that this work is funded by budget PJ 101964.000.5123, which has a total budget of $200,000 for 2023/24. Total expected project expenditure including construction and design fees is $157,000.

(f) **Notes** that a portion of the above costs are allocated to design of the A&P Showground improvements ($35,000).

3. BACKGROUND

3.1 The need for an upgrade at Church Street Reserve was identified following flooding and ponding outside the property at 189 High Street in multiple storm events. Between 183 and 193 High Street between 14/08/2017 and 12/07/2022 at least 30 service requests have been made in relation to flooding and drainage maintenance.

3.2 There has previously been work done, including refurbishing of existing soak pits as well as additional soak pits installed near 189 High Street. Anecdotal evidence suggests that this has improved the situation in short duration storm events, but issues still occur in long duration storm events.

3.3 There is an existing swale in 58 Burnett Street (owned by MainPower) taking stormwater from Burnett Street via sumps and pipes. This swale runs along the southern side and east side of the property into Church Street Reserve which was an old gravel pit.

3.4 During heavy rainfall events it appears stormwater breaches the swale at the southeastern corner of 58 Burnett Street and flows east through residential properties towards High Street where it ponds outside 189 High Street. This is also indicated from the topographical survey of the land.

3.5 Consultation with MainPower has confirmed they approve works to the site if they are outside the fenced substation site.

3.6 These works are to be done in conjunction with stormwater upgrades to be made in the Oxford Agricultural and Pastural (A&P) Showgrounds in 2024 / 2025 to prevent overland flow through residential properties. The A&P Showgrounds work is expected to provide much greater mitigation of the issue than the current work at Church Street Reserve.

3.7 The Oxford Stormwater Investigations Memo provides a high-level assessment of the stormwater drainage in Oxford between Bay Road in the west and High Street in the east, Main Street in the south and Church Street in the north (Attachment ii).

3.8 The proposed works (Attachment iii) will involve:

- Increasing the swale dimensions through 58 Burnett Street to Church Street Reserve to provide a swale capacity for the 1 in 50-year, 1 hour storm duration event. The swale will be formed entirely within 58 Burnett Street as it is currently partially in 54A Burnett Street and very close to the boundary of 23 Church Street.
- Bunding on the southern and eastern side of the swale will be constructed to mitigate overland flow through residential properties.
- An easement is to be placed over the swale in 58 Burnett Street.
- The existing inlet will be upgraded with new pipe and outlet into the swale with a riprap apron.
- A lowered driveway outlet on Church Street next to the 23 Church Street Boundary will be constructed as the spill point for the Stormwater Basin into Church Street southside kerb and channel. This will formalise the spill point and prevent overland flow from the swale through residential properties.
- Excess cut material from the swale is to be used to reduce the slope next to 23 Church Street Boundary.

3.9 This option will provide drainage improvements by conveying secondary flows away from private properties during storm events and into the Church Street Reserve which outlets to the road reserve.

3.10 There is additional works at the A&P Showgrounds programmed for construction in the 24/25 financial year. This work will mitigate the flooding issues at 189 High Street.

3.11 The key milestone dates for this project are shown in Table 1.

Table 1: Key Milestones and Dates

Key Milestone	Start	Complete
Tender	28/11/2023	18/12/2023
Construction	15/01/2024	26/04/2024
Project Complete		30/06/2024

4. ISSUES AND OPTIONS

4.1. Option 1 – Proceed with Oxford Stormwater Upgrade - Church Street Reserve. This option conveys secondary flow downstream of 58 Burnett Street away from residential properties and into the Church Street Reserve where it will drain to ground in moderate storm events. In large storm events the stormflow will spillover into Church Street which outlets into the road reserve. This is the recommended option as it mitigates secondary flow from 58 Burnett Street and Church Street Reserve through residential properties. It is proposed to tender this contract this year and construct in the 2023/2024 financial year.

Option 2 – Do not proceed with Oxford Stormwater Upgrade - Church Street Reserve and consider putting additional budget towards Oxford A&P Stormwater Upgrades. This is not the recommended option as secondary flow in large storm events will continue through residential properties at this location. There is budget available in the current financial year for this work.

Implications for Community Wellbeing

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

Social – Alterations to secondary flow path provides benefits to the residents downstream of 58 Burnett Street and Church Street Reserve.

4.2. The Management Team have reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Mana whenua

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

5.2. Groups and Organisations

- The community has not been informed of the timeframes for this project.
- No community groups or organisations have yet been consulted on this proposal.

5.3. Wider Community

- There has been no consultation as yet with the wider community on this proposal. The wider community may be affected by this proposal by directing secondary flow from residential properties into southern side of Church Street.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

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

- The current budgets have the following allocations:
    - High Street Drainage – SW LOS (P.J. 101964.000.5123) - $200,000 (construction 2023/2024)
- The Engineers Estimate including professional fees is $97,000 outlined in Table 2.

Table 2: Engineer's Estimate

Item	Amount
Spent to Date	$25,000
Church Street Reserve Construction	$60,000
Professional Fees	$25,000
Contingency (20%)	$12,000
Total Church Street Reserve	**$97,000**
Oxford A&P Design Fees against this budget	$35,000
Total	**$157,000**

- No budget changes are proposed as part of this report or staff submission to the Draft Long Term Plan. Any overspend will be reported to Council as part of the drainage staff submission report on the 2023/24 Annual Plan.

6.2. Sustainability and Climate Change Impacts

The recommendations in this report do have sustainability and/or climate change impacts. The recommendation is to divert secondary flow away from residential properties. With heavy rainfall events predicted to occur more often in the future this will help mitigate secondary flow through private properties.

6.3. Community Implication

- The recommended approach would benefit the community by reducing the impact of storm events in the catchment and the risk of secondary flow through residential properties.

6.4. Risk Management

- There is a risk in the interim period before an upgrade is implemented that secondary flow through residential properties could occur during significant rainfall events.
- The normal risks associated with construction apply and are partially addressed by provision of a 20% overall project contingency within the cost estimates.
- There remains a residual risk following the works of the water spilling into 23 Church Street and through other residential properties due to similar spill levels on to Church Street and the boundary and limited freeboard provided for the basin.

6.5. Health and Safety

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

- There will be a Safety in Design process undertaken as part of the detailed design process, to identify and mitigate construction, maintenance and end user risks.
- Contractors Health and Safety methodology and track record will be assessed in the tender evaluations and a site-specific safety plan will be required.

7. CONTEXT

7.1. Consistency with Policy

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

7.2. Authorising Legislation

- The Local Government Act is relevant in this matter.

7.3. Consistency with Community 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.
- Core utility services are provided in a timely and sustainable 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.

7.4. Authorising Delegations

- The Utilities and Roading Committee is responsible for activities related to Stormwater drainage.

WAIMAKARIRI DISTRICT COUNCIL

MEMO

FILE NO AND TRIM NO:	PD001901 / 220922165131
DATE:	30 September 2022
MEMO TO:	Kalley Simpson, 3 Waters Manager
FROM:	Mark Henwood, Project Engineer
SUBJECT:	189 High Street Options Memo

1. Purpose

To provide a high level options report with cost estimates to assist with the decision of the preferred option for improvement.

2. Background

The following section provides a background to the history of flooding issues in the area near 189 High Street, Oxford.

2.1. Service Requests

There has been flooding outside 189 High Street in several rainfall events. A search of services requests in Tech One regarding flooding outside this property showed that 14 service requests were made between 18/09/2017 – 12/07/2022.

Requests included the following information:

- Drainage was not function properly
- Flooding happens every time it rains
- Vehicles driving through flood waters pushes water under her house.
- Vehicles have pushed water into one of her rooms
- Work done to fix the problem has failed.
- Mayor has been notified of ongoing issues
- Damage to property and carpet replaced.

189 High Street is an old property and has no setback from the road boundary. Therefore wave action from vehicles driving through ponded water can more easily push the water into the building. Records indicate this house was built in the 1910 decade.

There have also been requests regarding flooding and drainage made by 183, 184, 185, 186 and 187A High Street on eight dates between 14/08/217 and 12/04/2022. A list of flooding service requests from 104 - 193 High Street, Oxford can be found in Appendix B.

The Tech One service requests appear to go back to September 2014.

2.2. Oxford Stormwater Management Plan Review

In 2002 an Oxford area wide stormwater management plan was completed (see Trim Number 180510051099). This noted that the soak holes on High Street have a history of flooding during large storm events and that there is risk to the properties due to flooding. It mentioned that the overland flow path is currently lacking in the area. The report provides options for a 5 year upgrade and a fifty year upgrade for the stormwater network (with the main difference for the fifty year being larger pipes). The five year upgrade was recommended at the time with no high risk flooding problems on site.

This showed a stormwater system flowing into a proposed swale at the High Street / Weld Street intersection (see Appendix A).

The development of property in the surrounding area of 189 High Street, Oxford since this stormwater management plan is likely to have increased the flooding problems around the low point outside 189 High Street. There are new developments along Church Street with the properties stormwater runoff going to kerb outlets on Church Street. There is also a new development at 187 High Street that drains to a bubble up sump (now connected to a soak pit) in High Street. These developments have significantly increased the stormwater runoff in the area.

The report recommended that if stormwater was diverted to Pearson Drain that the Pearson Drain is upgraded along Oxford Road as well due to the increased flow in Pearson Drain.

3. Existing Stormwater Network

The existing stormwater drainage near 189 High Street, Oxford is shown in the Figures 1 to 4 below. A layout from the 2002 Stormwater Management Plan is also attached in Appendix A (there are new sumps, pipes and soak pits in the area since this management plan).

Figure 1: Existing High Street Drainage Overview

Figure 2: Existing Drainage - 189 High Street

Figure 3: Existing Drainage - Oxford Working Mens Club, High Street

Figure 4: Existing Drainage – Pearson Drain, High Street

3.1. Sumps

It has been noted that in Oxford, including this area, that there are a lack of sumps for stormwater collection. There are long stretches of road without a sump.

For example:

- Church Street between Bay Road and Burnett Street along the southern kerb and channel there is only one sump at the corner of Burnett Street / Church Street. This is over a 470m stretch of kerb and channel without a sump.

- Church Street between Burnett Street and High Street there is also only one sump on the southern side kerb and channel near the corner of High Street. Along here roof water also flows to the kerb and channel. This is over a 300m stretch of road without a sump.

Sumps spaced at more than 90m intervals (WDC ECoP) are not desirable. This is because as the flow across the road increases it means downstream sumps will only capture a portion of the road flow or if in a sag it creates a larger pond to be captured in the low point of the catchment.

Piping from the southern side of Church Street to the Church Street Drain on the northern side is not advised due to potential backflow when this drain is flowing full.

3.2. Existing Capacity

The current network upstream relies on drainage channels and soakage which is overwhelmed during heavy rainfall events meaning secondary flow occurs through properties in an eastwards direction.

Soakage rates will vary depending on saturation of the ground and the condition of the soak pit. For the purposes of design it has been assumed in heavy rainfall events that the soak pits have negligible capacity.

The existing capacity of the network is not sufficient as buildings are flooding. 189 High Street floods in less than a 1 in 50 year storm event from wave action generated by moving vehicles in ponded water on High Street. Therefore it is not meeting the required level of service).

4. Catchment Analysis

The catchment at 189 High Street was divided into multiple catchments. These catchments assume no spill over from other catchments. However, there is potentially spill over from the pond on the Burnett Street / Church Street Corner. This may then flow through the 187 High Street Right of Way and then when the soak pits in High Street are overwhelmed it ponds outside 189 High Street.

Proposed catchment improvements involving bunding upstream around the Oxford A&P showgrounds and bunding around the pond at Dominic's Reserve, may help to alleviate some of the overflow downstream into this catchment.

A catchment plan is shown in Figure 5.

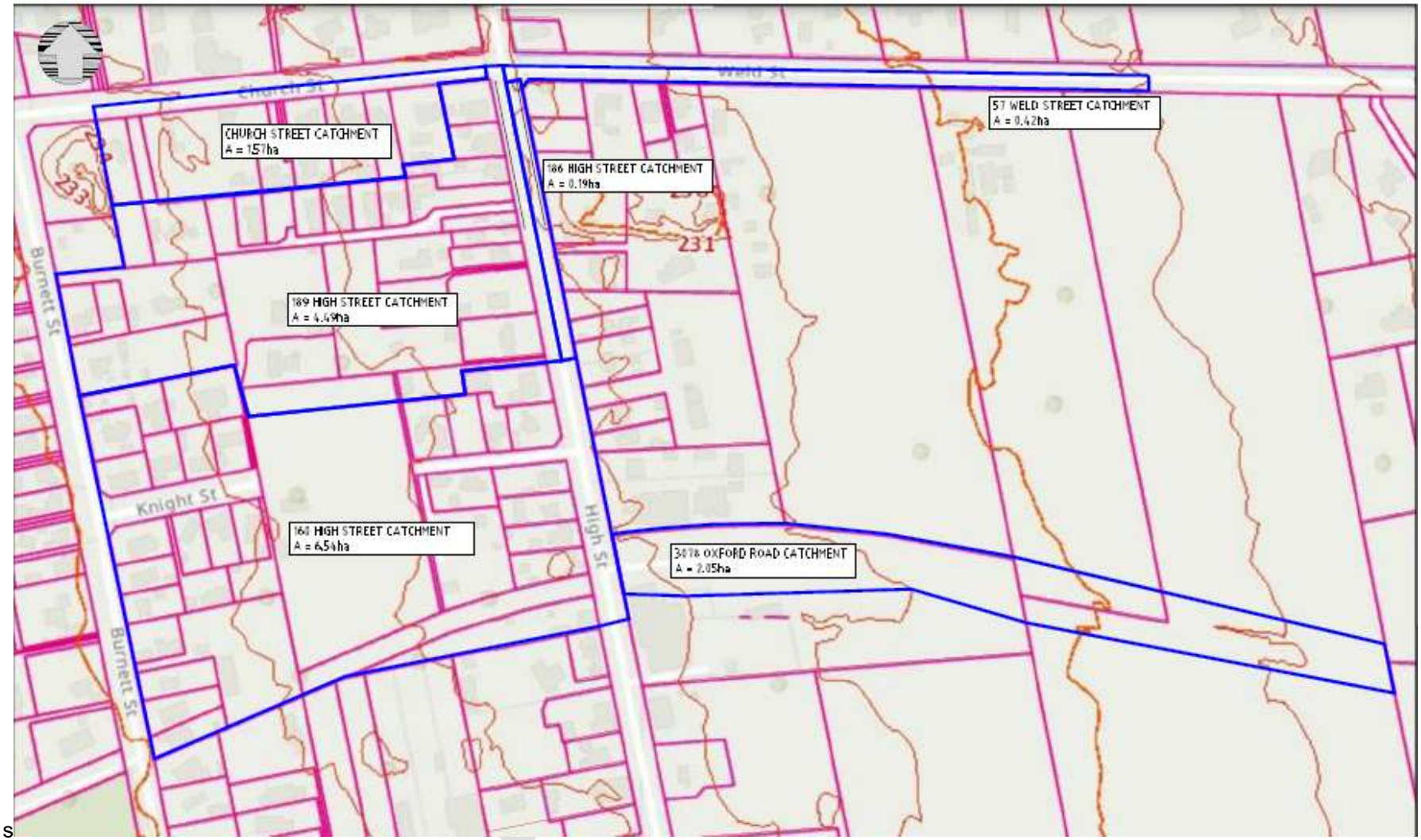


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Figure 5: 189 High Street Stormwater Upgrade Catchments

5. Concept Design Options

Having an adequate piped stormwater network or naturalised drains with sufficient capacity to prevent flooding of buildings in a 1 in 50 year storm event and flooding of streets in a 1 in 5 year storm event is required to meet the appropriate level of service. The following options look at provide this level of service to the 189 High Street catchment.

As 189 High Street is in the low point in the catchment we also need to capture the secondary flow to prevent flooding of property and buildings.

5.1. Option 1 – High Capacity Sumps to Bubble up in Weld Street Swale

This option involves piping the secondary flow from outside 187 High Street to bubble-up manhole in Weld Street. The Option 1 concept drawing can be found in Appendix D.

Weld Street is the closest Council owned area that naturally grades away from 187 High Street.

The advantages of this option are:

- Secondary flow diverted away from 187/189 High Street
- Shortest distance to pipe flow to an outlet
- Secondary flow can hydraulically bubble up

The disadvantages of this option are:

- Power poles located in proposed swale – deeper foundations maybe required or relocation.
- Water main located in berm may need to be deepened.
- A long length of swale required to be constructed and regraded.
- Driveways crossing swale require piping.
- Sewer laterals crossing Weld Street in location of swale (depth unknown)
- Pipes and sumps could block resulting in ponding outside 187/189 High Street.

The swale has been allowed to be regraded for 180m downstream of the outlet. In reality a swale would need to be formed to a suitable discharge point for the secondary flow this is likely to be a significant distance (see Section 7 Discussion). However, the flooding with the proposed upgrades in Option 1 would be alleviated from High Street but may result in flooding at where the swale formation finishes downstream.

If the design allowed for some storage / ponding in the road reserve it may mean pipe sizes downstream could be reduced but not significantly. (This is estimated to be a maximum of one pipe size). No pipe blockage allowance has been made in the calculations for Option 1.

5.2. Option 2 – Pipe down to old railway reserve / Oxford Working Mens Club (160 High Street) and discharge into farm swale

This option involves piping the secondary flow southwards down High Street towards the old drainage reserve at 160 High Street Oxford Working Mens Club. The Option 2 concept drawing can be found in Appendix D.

There is a DN300 pipe from the road to the outlet on the east side of the bowling club serving two sumps near 167 High Street and carpark drainage from the Oxford Working Mens Club. In Option 2 this pipe would be replaced with a DN1050 pipe.

Visual inspections at the outlet indicate the ground level rises from the DN300 pipe wingwall outlet. It is recommended to regrade the swale downstream of the outlet to allow adequate flow from the outlet.

The swale has been allowed to be regraded for 420m downstream of the outlet to the boundary of 3050 and 3078 Oxford Road. In reality a swale would need to be formed to a suitable discharge point for the secondary flow. This is likely to be a significant distance (see Section 7 Discussion). However, the flooding with the proposed upgrades in Option 2 would be alleviated from High Street but may result in flooding in the farmland area where the swale formation finishes downstream

The advantages of this option are:

- Swale easy to construct in farmland
- Flooding or overland flow will be through farmland rather than down the road and across driveways.
- Allows for some flooding alleviation to the south of 189 High Street as well.

The disadvantages of this option are:

- Sewer lateral crossings with piping down High Street may conflict with large diameter stormwater pipe
- Greater piped distance than Option 1 meaning higher cost
- Easements or purchase of land required through farm land for drainage. (There is a drainage channel marked on Waimap. However, there does not appear to be a formalised drainage path through the farmland at this location.)

If the design allowed for some storage / ponding in the road reserve it may mean pipe sizes downstream could be reduced but not significantly. (This is estimated to be a maximum of one pipe size). No pipe blockage allowance has been made in the calculations for Option 2.

5.3. Option 3 – Pipe to Pearson Drain

This option involves piping the secondary flow southwards down High Street to Pearson Drain.

Piping to Pearson Drain is not possible due to the invert of Pearson Drain being higher than the invert of the outlet pipe outside 189 High Street.

- Kerb invert level 189 High Street 231.46m
- Sump outlet pipe invert level 189 High Street 230.92m
- Pearson Drain invert 231.09m

A sufficient rise in Pearson Drain water levels would result in backflow to 189 High Street which is not advisable.

Pearson Drain could potentially be flattened off between Oxford Road and High Street based on Lidar levels from a gradient of 1 in 150 to 1 in 1000. This would result in an invert at High Street of 229.45m (based on Lidar information from Waimap). However, piping the stormwater this far is still a challenge and would require a bubble up system and is not preferred to the other options presented.

Therefore, no further design into piping into Pearson Drain has been done.

5.4. Additional Options not investigated

- Road alterations – Lower crown of road outside 189 High Street to spill to the other side and regrade towards Weld Street
- Buy sections at 188 and 190 High Street (currently grassed sections) and build a detention / soakage basin before spilling into a proposed Weld Street swale.
- Upstream earthworks to re-direct secondary flow. This option is being investigated in another project which may reduce some of the overland flow to this catchment.

6. Budget Estimates

Table 1 shows the cost of each of the options. A breakdown of the costs can be found in Appendix E.

Table 1: Cost of Options

Option 1: Weld Street	$1,400,000
Option 2: 160 High Street	$2,500,000

Note: Neither of these costs are complete options / solutions as they do not address the spill over stormwater runoff coming from upstream catchments and the required capacity of the downstream stormwater infrastructure it discharges into. This is discussed in Section 7.

7. Discussion

Below is a discussion regarding the upstream catchment area of 189 High Street, Downstream Catchment Area of 189 High Street and Piping to Campbell Lane.

7.1. Upstream Catchment Area of 189 High Street

There is a stormwater investigation happening of the wider area of Oxford. This includes the catchment area bordered by Bay Road, High Street, Main Street and Church Street.

The upgrade works at 189 High Street should not be consider as an isolated piece of work. A patch repair is not recommended to solve the problem of flooding at 189 High Street. The whole area should be considered and how that relates to this catchment and what presents the best overall solution to the flooding issues experienced across these catchments rather than what is the solution to the issue at this site.

Soakage has been used in Oxford to discharge runoff. However, during significant rainfall events the soakage has been overwhelmed and stormwater flows overland. Therefore soakage is not a recommended discharge option for the stormwater in Oxford. Installation of new soak pits in High Street near number 189 may have had some minor impact in certain rainfall events but they do not solve the issues with ponding in larger events. Soak pits also become clogged up over time reducing there soakage ability.

In the design the catchment calculations have not allowed for any spill over from upstream catchments. It is likely in high rainfall events that the upstream catchments are overflowing downstream and have a knock on effect before reaching a low point outside 189 High Street.

7.2. Downstream Catchment Area of 189 High Street

The presented options have only shown upgrades of swale for a maximum of 180m for Option 1 and 420m for Option 2 downstream of the proposed overflow manhole.

7.2.1. Option 1 – Weld Street

With Weld Street the Option will require significant upgrades downstream of what has been allowed for in the concept option design. The swale will need to be continued from 57 Weld Street all the way along Barracks Road. The Oxford Road drain will most likely need to be upgraded along Oxford Road and then down Oxford Road to where it crosses outside 2 Starvation Hill Road and drains into an irrigation pond.

Along this alignment there are driveway crossings and services in the road reserve.

The estimated works to continue swale further down Weld Street are:

- Swale formation from 57 Weld Street to Barrack Road / Oxford Road Intersection 1650m
- Potential services relocation of 63 PE Water Main – 600m (3078 Oxford Road to Powells Road)
- 6 power pole relocations 57 to 9 Weld Street.
- 13 driveway crossings (may involve a bubble up large diameter pipe system for each)
- Potential road realignment around 121 Weld Street Road bend to accommodate swale or purchase of land.
- Upgrade of culvert crossing Barracks Road at Gardiners Road
- Potential services relocation of 25 PE Water pipe 400m (Gardiners Road to Oxford Road)
- Other service providers may have services also located in the road reserve that need relocating.

7.2.2. Option 2 – 160 High Street / Old Railway Reserve

An appropriately sized swale is needed to be formed along the old railway reserve through farm land. Currently there is no easement over the drain through this land. Should a swale be formed it is recommended to place an easement or purchase the land through which it passes for land drainage. It is also likely that the drain along Oxford Road will need upgrading to take the required flows so that it can pass the flow without flooding the road. This will need to be upgraded.

The estimated works to continue swale further from Option 2 (west boundary 3050 Weld Street):

- Swale formation from west side 3050 Oxford Road to Barracks Road / Oxford Road approximately 1170m.
- Form easement over drain or purchase of land for drainage through properties 160 high Street, 3024 Oxford Road, 3050 Oxford Road, 3064 Oxford Road, 3078 Oxford Road. Allow for a 10m drainage easement 1320m, 1.32ha of easement / land purchase.
- 4 power pole relocations (Oxford Road adjacent to 1 and 19 Weld Street)
- Upgrade of culvert at Barracks Road / Weld Street intersection.

7.2.3. Option 1 and 2 – Barracks Road to Eyre River

Upgrades may also be required to the swale along the side of the road from Barracks Road to the farm land where the swale crosses Oxford Road at 2 Starvation Hill Road and also through the farm land to the Eyre River as shown in Figure 6.

The estimated works to continue swale further from Barracks Road to Eyre River:

- Swale upgrade of approximately 1350m from Barracks Road to 2 Starvation Hill Road Oxford Road crossing.
- Potential service relocation of 63 PE water main (780m from Barracks Road to Starvation Hill Road)
- Two driveway crossings
- Upgrade of culvert at Starvation Hill Road
- Upgrade of culvert at Oxford Road

- Swale upgrade of approximately 2900m through farmland from Oxford Road to Eyre River. (See Figure 6). This land should be considered for an easement or drainage reserve purchase.

Figure 6: Swale from Oxford towards the irrigation pond / Eyre River (Photo courtesy of Google Street View)

7.3. Piping to Campbell Lane

The option of piping Oxford Road / Pearson Drain (from opposite Campbell Lane) to the Flannigan Drain at Campbell Lane could be explored to alleviate flow in the Oxford Road Drain.

8. Recommendation

The concept design solutions for the stormwater drainage upgrade at 189 High Street need to factor in the wider flooding problems in the Oxford area. Stormwater and overland flow is likely coming from upstream catchments. There also needs to be a suitable downstream discharge point for the secondary flow before constructing either of the proposed concept options.

Further discussion and a workshop is recommended before proceeding with an Option for improvement. This would involve discussing the stormwater in the Oxford area as a whole, budgeted amounts and if staged upgrades are an option.

WAIMAKARIRI DISTRICT COUNCIL

MEMO

FILE NO AND TRIM NO:	PD001866 / 221107193489
DATE:	7 November 2022
MEMO TO:	Kalley Simpson, 3 Waters Manager
FROM:	Mark Henwood, Project Engineer
SUBJECT:	Oxford Stormwater Investigations • Agriculture and Pasture Showgrounds • Dominic's Reserve

1. Purpose

The purpose of this report is to provide a high-level assessment of the stormwater drainage in Oxford between Bay Road in the west and High Street in the east, Main Street in the south and Church Street in the north. The assessment includes preferred options for improvement of the stormwater infrastructure and estimated costs.

2. Background

In 2002 an Oxford area wide stormwater management plan was completed (see Trim Number 180510051099). This highlighted issues with the flooding in Oxford and proposed solutions. It also comments that historically the land to the north of Main Street was very swampy and soakage is often very restricted. For more information on the relevant sections to his work see Appendix A. There have been several complaints from the Oxford area in the past years relating to flooding in properties and some buildings during heavy rainfall events.

Note that the High Street flooding near 189 High Street has been investigated under the 189 High Street Stormwater Upgrade project.

2.1. Service Requests

From previous service request history a few of the residents have been contacted to help better understand the flooding issues in the Oxford area between Bay Road in the west and High Street in the east, Main Street in the South and Church Street in the North.

The key comments from these conversations are noted below.

- 187A High Street – advised that the pond at Dominic's Reserve had overflowed about three times in the past five years and has run through her property more from the northwest corner. In the storm event of 12th July 2022, it happened at night so was hard to see what was happening. She said water was running under her house (not along the back of the garage) and through 187B High Street onto the right of way down to High Street. Flooding in the right of way was about 2 – 2.5 inches deep flowing faster than walking, 2m into driveway.
- 189 High Street – advised that soak pits have made a huge difference in the short-term events but not in the bigger rainfall events. She was annoyed with

people driving down the road and creating a wake into her property. Otherwise indicated it would almost be tolerable. She indicated that water is overflowing from the stormwater pond at 29 Burnett Street down the back of 23, 21 Church Street into the right of way at 187 High Street.

- 21A Burnett Street – Water is overflowing from football field at Showgrounds into 21A Burnett Street. He has said the stormwater basin at 29 Church Street / Dominic's Reserve does overflow.
- 37 Church Street – The drain has been filled in around the A&P showgrounds and overflows through 37 Church Street on to Church Street. There has been water flowing through the garage and bedroom.

For a list of the service requests to the 12 July 2022 from Tech One enquiries please refer to Appendix B and for flooding photos see Appendix C.

2.2. Walkover and visit with residents

On 29 August 2022, the residents of the following properties were talked to on site:

- 19 Burnett Street
- 21A Burnett Street
- 71 Burnett Street
- 53A Burnett Street

The key points from the conversations were:

- The swale from the Oxford Agriculture and Pasture (A&P) Showgrounds has a small concrete block entrance with earth place over it (Figure 1). Going through the section of 55A Burnett Street diagonally to the drainage easement in 53A Burnett Street. There is a fort above 53A Burnett Street in the northwest corner of the section (Figure 2).

Figure 1: Swale Entrance into 55A Burnett Street

Figure 2: Fort in corner of 53A Burnett Street

- Because of the small drain entrance near 55A Burnett Street (Figure 1) stormwater likely backs up in the swale from here and then overflows through the low point near 37 Church Street (lower than the overflow point at 55A Burnett Street). (Exact levels not surveyed due to tree coverage).

- Floodwater from showgrounds overflows into properties at 37 Church Street towards Burnett Street (71 Church Street) (Figure 3).

Figure 3: Oxford A&P Swale looking towards 37 Church Street

- 71 Burnett Street was keen for the swale to be bunded in the A&P Showgrounds.

- A walkover with the resident of 21A Burnett Street was had around the Oxford A and P Showgrounds. He described the floodwater coming through from the showgrounds into his property (see Figure 4 and Figure 5) and believed the showground was legally required to control their stormwater runoff. He had concerns about the trees and dead wood underneath being a fire hazard.

Figure 4: Flooding in Oxford A &P Showgrounds adjacent to 21A Burnett Street

Figure 5: Flooding in 21A Burnett Street, Oxford

- The A and P showgrounds is largely undeveloped – mostly grassland. The fall of the land is towards the properties on the eastern boundary (Figure 6). There could be potential soakage overflow from sites such as Oxford Area School.

Figure 6: Oxford A&P Showgrounds

- 55A Burnett Street said the back of his property (Figure 7) flooded but never in the house and that he was used to this kind of surface water. The previous owner had put in a small custom block drain and blocked off the swale (Figure 1), so the water had nowhere to go when it reached the properties.

Figure 7: Looking at swale entrance from 55A Burnett Street into A&P Showgrounds

- The swale outlet in 53 Burnett Street is blocked by concrete blocks over the grill (Figure 8). There are two small pipes (~200mm diameter) for the inlet and no headwall to take the runoff water to the basin (Figure 9).

Figure 8: Concrete Blocks Blocking Swale Outlet

Figure 9: Piped Swale Outlet 53 Burnett Street

- At 160 High Street – from the DN300 outlet the swale appears to go uphill (Figure 10).

Figure 10: Swale at rear of 160 High Street

2.3. Old Aerial Photographs

The following points were noted from a review of the old aerial photographs accessed through Waimap.

- Aerials 1940 - : Shows more pronounced drainage channel entrance into 53A Burnett Street from A&P Showgrounds.
- Aerials 1955 – 1959: Drainage channel at back of 10 Knight Street / 179B High Street. Looks like a drainage channel through 50 / 54A Burnett Street?
- 189 High Street – Is an old house ~75 years at least, no setback from road frontage, and created an increase in impervious surfaces development.

The aerial photos indicate that there is a current lack of drainage reserves, easements or stormwater network in the area as old drainage channels have been removed through development.

3. Existing Stormwater Infrastructure

3.1. Swales

There is a swale through the Oxford A & P Showgrounds that stretches from the east side of 100 Bay Road along the northern boundary then down the eastern boundary to 55A Burnett Street. Here it enters a small concrete block drain under the corner of 55A Burnett Street. This swale goes through a DN300 culvert between 47 and 51 Church Street driveway entrance.

The existing swale capacity versus the design flows is summarised in Table 1.

Table 1: Existing Swale Capacity vs Design Flow Oxford A and P Showgrounds

Swale Location in Oxford A & P Showgrounds	Estimated Capacity (L/s)	Design Flow, 1 in 5 yr, 1 hr (L/s)	Design Flow, 1 in 50 yr, 1 hr (L/s)
100 Bay Road / 59 Church Street	145	60	110
51 / 53 Church Street	95	95	180
DN300 pipe			
37/39 Church Street	570	145	275
55A Burnett Street	330	172	330
Concrete Block pipe at 55A Burnett Street			
Swale in 53A Burnett Street U/S side	260	172	330
Swale in 53 Burnett Street U/S side	100	172	330

The capacity through the swale sections in the A&P showgrounds appears sufficient apart from at 51 / 53 Church Street. At 55A Burnett Street it is likely that the swale is choked by the small drainage pipe and backs up overflowing at 37 Church Street.

3.2. Dominic's Reserve

There is a swale in private property 54A Church Street (private property) and 58 Church Street (MainPower) to Dominic's Reserve at 29 Church Street (Waimakariri District Council). Table 2 gives the estimated capacity and design flows for the swale.

Table 2: Existing Swale Capacity Dominic's Reserve

Swale Location in Oxford A & P Showgrounds	Estimated Capacity (L/s)	Design Flow, 1 in 5 yr, 1 hr (L/s)	Design Flow, 1 in 50 yr, 1 hr (L/s)	Notes
Inlet Pipe to swale 58 Church Burnett Street		250	470	Cross-Section under trees unable to survey with GPS
58/54A Burnett Street & 23 Church Street Corner.	120	250	470	Grade 1:470
58 Church Street / Dominic's Reserve	5100	250	470	Grade 1:30

3.3. Stormwater Network Burnett Street

Figure 11 and Figure 12 below show the existing stormwater network in Burnett Street.

Figure 11: Existing Stormwater Layout: 51 – 71 Burnett Street

The stormwater from the sumps between 53 and 71 Burnett Street flow into Dominic's Reserve at 29 Church Street.

There is piped drainage from the swale outside 53 Burnett Street across Burnett Street to the swale at 54A / 58 Burnett Street which flows into Dominic's Reserve.

The sumps in the area do not have back entries. This means that they can more easily be blocked and have less capacity to take stormwater from the kerb and channel flow.

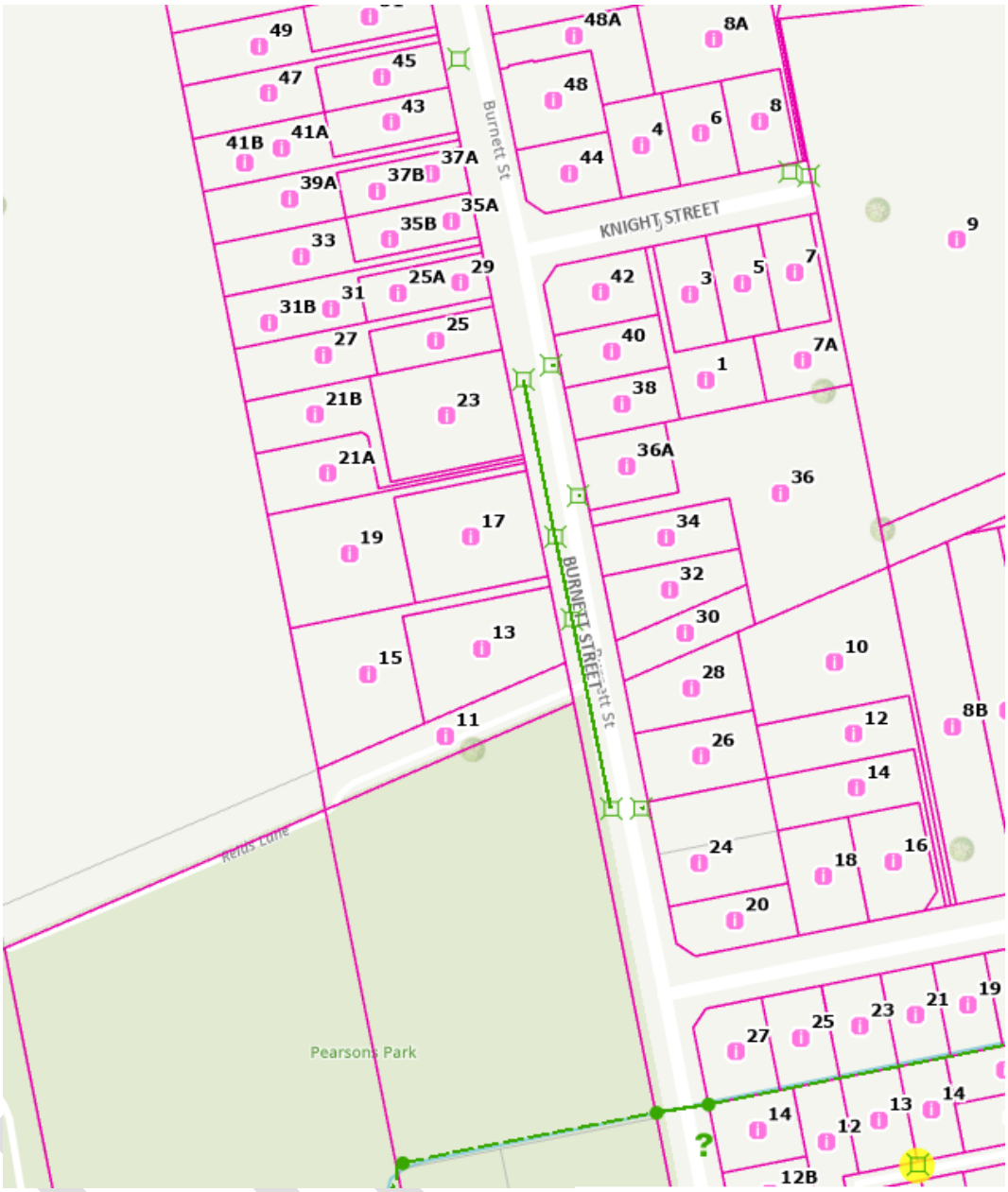


Figure 12: Existing Stormwater Layout: 14 – 48A Burnett Street

The sump network between 26 and 48A Burnett Street goes to soakage. Any overflow from these sumps will spill over making its way towards Dominic's Reserve. There is under kerb channel drainage linking the sumps between 23 Burnett Street and opposite 24/26 Burnett Street.

4. Catchment Analysis

4.1. A and P Showgrounds Swale

The catchment analysis was done using contour information in Waimap and the topographical survey data obtained. Calculations were performed using the Rational Method.

Figure 3 shows the catchments used for the runoff and swale design calculations.

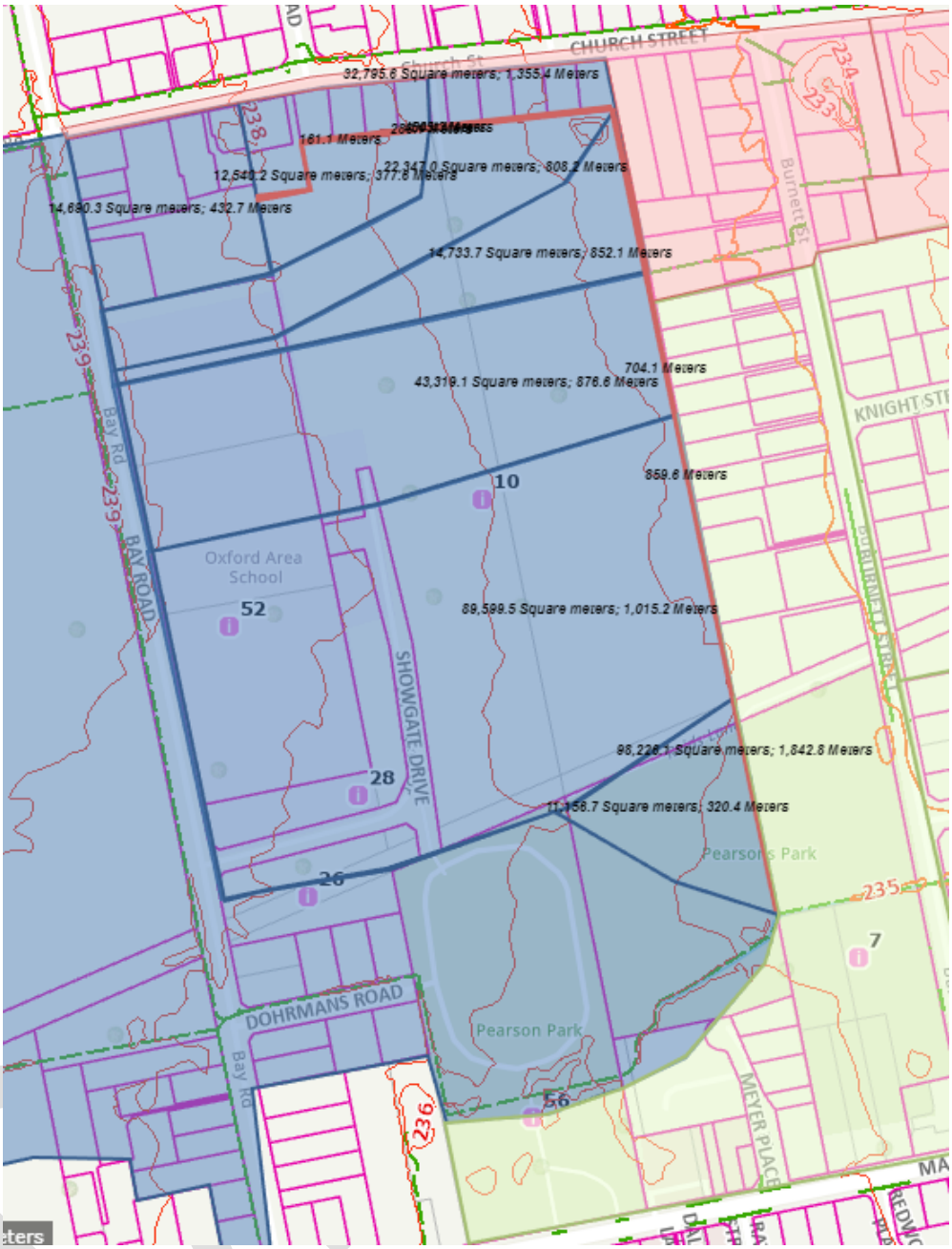


Figure 13: Oxford A & P Showgrounds Stormwater Catchments

Catchment Calculations are in Appendix D.

Runoff coefficients have been based on E1/VM1 New Zealand Building Code. Initial time of concentrations for design used were 10 minutes at the upstream end of the catchment and 20 minutes and the downstream end. After discussions, the time of concentration / storm duration was revised to use the 1-hour storm which allows for storage in the system.

The Church Street properties from numbers 39 - 65 have been assumed to flow into the swale in the Oxford A&P Showgrounds.

4.2. Dominic's Reserve

Figure 14 shows the catchment area used to calculate the flow for Dominic's Reserve. This assumed no spill over from the Oxford A&P Showgrounds and other catchments.

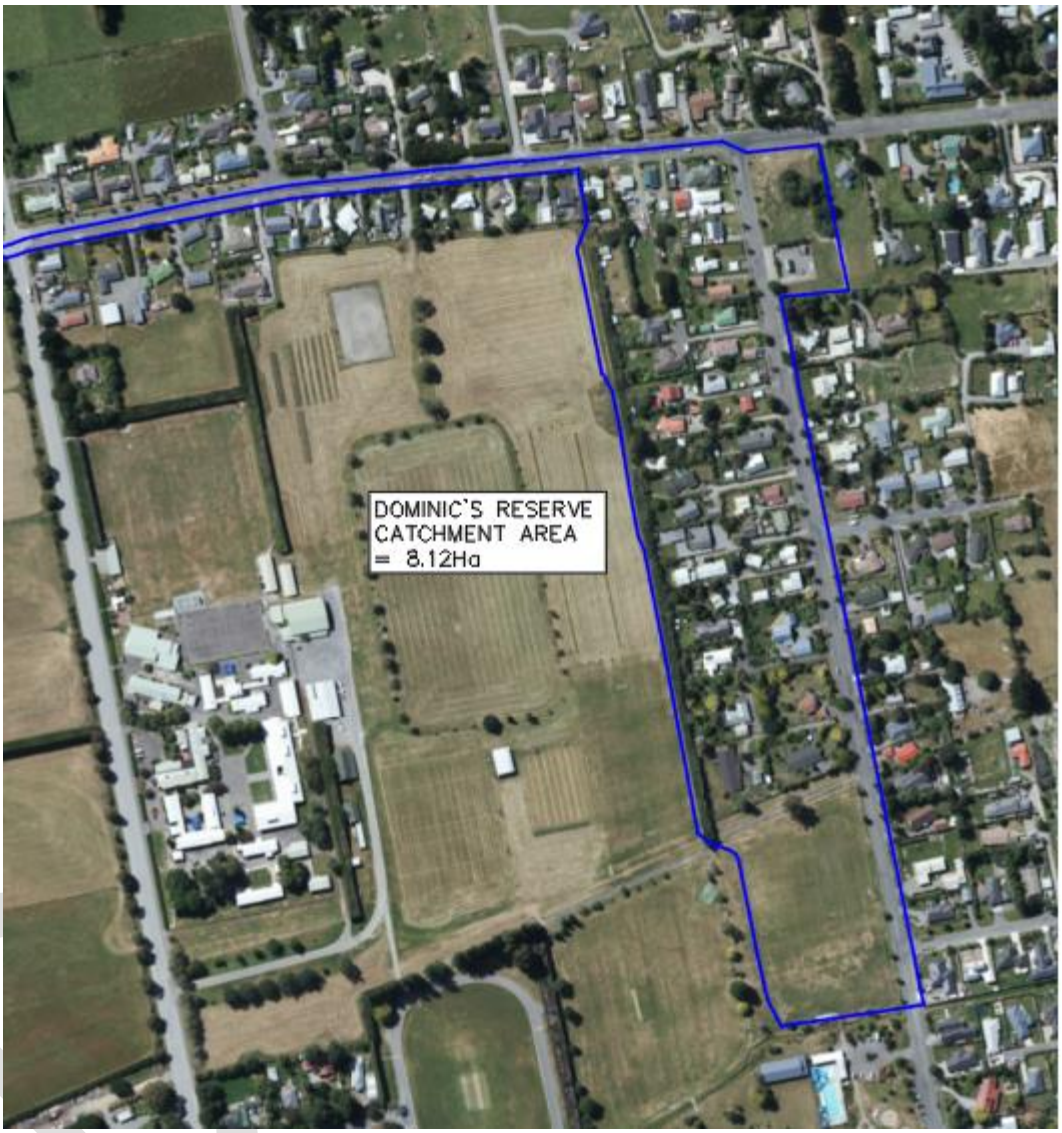


Figure 14: Dominic's Reserve Catchment

Catchment Calculations are in Appendix D.

5. 100 Bay Road Development

There is a proposed residential development at 100 Bay Road. The current plans show stormwater discharging into the swale at the top end of the Oxford A&P Showgrounds via a bubble up scruffy dome and overland swale. This bubble-up Scruffy Dome has design rim levels of 237.59m and pipe IL of 236.75.

Attenuation is expected to be provided on site to pre-development levels until the swale upgrade works in the Oxford A&P Showgrounds have been completed. The Bay Road developer has been given the possibility of working with WDC on the downstream stormwater upgrades and only have partial attenuation onsite once the swale upgrades are completed. Each lot is expected to have a 5,000L attenuation tank on site and full attenuation before the swale upgrades will be provided by a basin in a lot in the interim.

The proposed services layout plan at the time of this report can be found in Appendix G.

6. Knight Street Development

Should 9 Knight Street be developed this will create more surface runoff in the area. Due to the limited soakage in the area and lack of stormwater drainage it would be advised that the new development at least attenuates its stormwater to pre-existing levels or that a stormwater network is built. A couple of alignments from the proposed development are:

- Through the Old Railway Reserve at 165 High Street then to 160 High Street and out behind the bowling club at the Oxford Working Mens Club.
- Through Knight's Street East out to High Street and then down to 160 High Street.

These are shown in Figure 15.

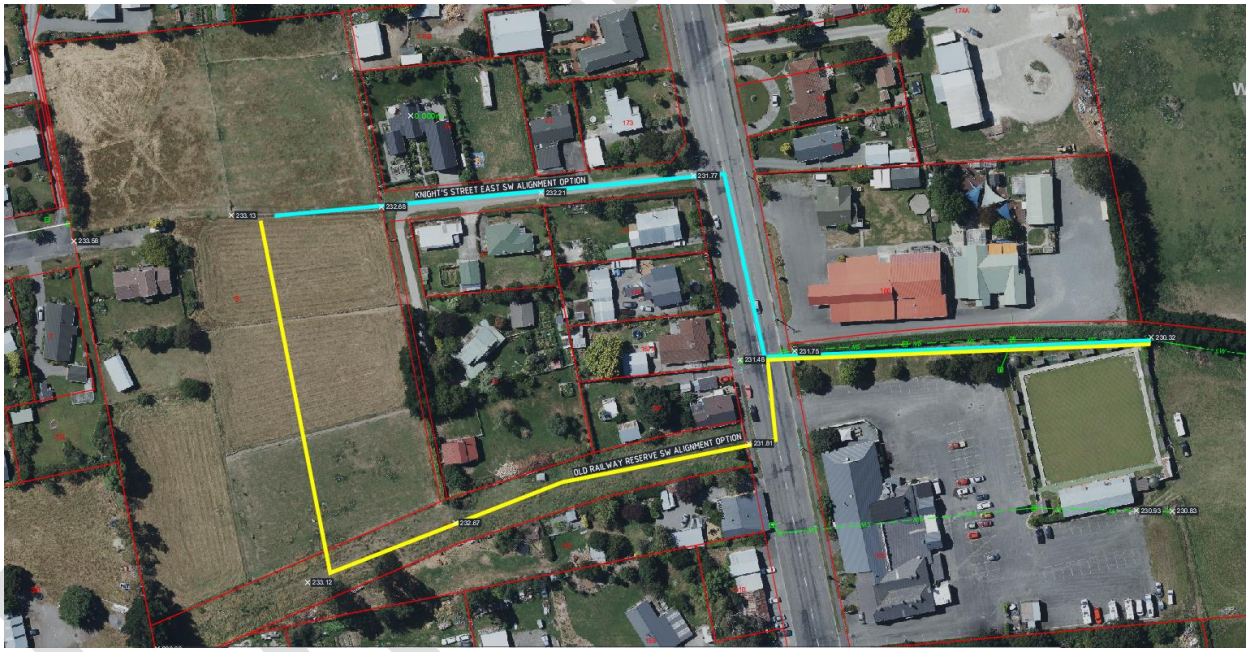


Figure 15: Knight's Street Stormwater Alignment Options

A proposed option from 189 High Street Stormwater Upgrade is to discharge stormwater into the swale at 160 High Street by the bowling club. Should this be chosen it should consider the Knight Street development.

Further swale works downstream are also advisable as outlined in the 189 High Street Stormwater Upgrade concept design.

7. Concept Design

7.1. Oxford A&P Showgrounds Swale Works

Swale design calculations for the Oxford A&P showgrounds and Dominic's Reserve have been undertaken using the Conveyance Estimation System by the Environment Agency, Scottish Government, Rivers Agency Northern Ireland and Wallingford Software Limited. This software makes it easy to interrogate the parameters for swale discharge based on the design parameters entered for the swale.

An iterative approach was used to determine the grades of the swale using CES and AutoCAD C3D based on the site survey.

From these sections a model was produced in AutoCAD Civil 3D to estimate the cut/fill quantities required to build the swale.

The initial design was based on the swale holding the 50-year storm event for time of concentrations varying between 10 – 20 minutes. This provided a rather large swale nearly 20m wide where it entered Pearson Drain.

After discussions this was revised with the swale sizing across the site based on the 1 in 5-year, 1 hour storm for RCP 2081-2100 from HIRDS v4. It was discussed that the swale and A&P showgrounds would have a good amount of storage should more intense rainfall occur.

Figure 16 shows how the design for the swale was developed.

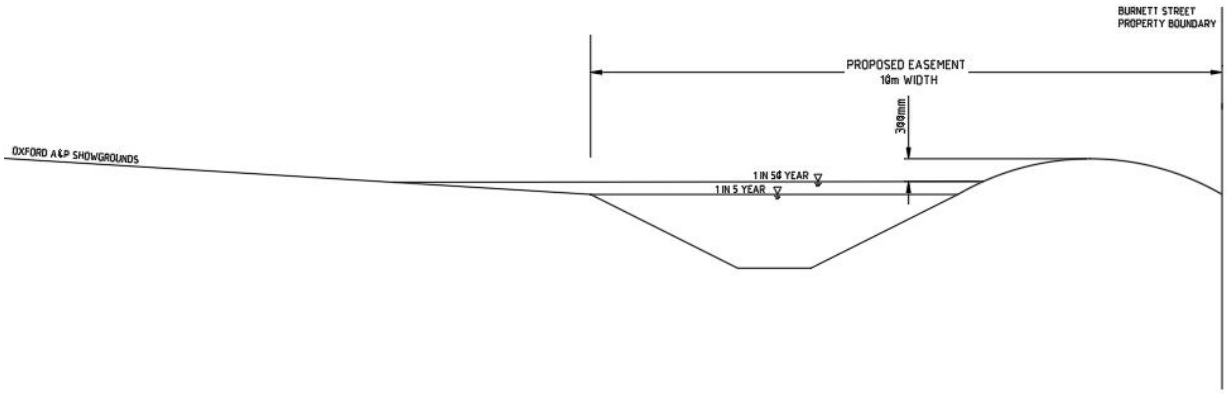


Figure 16: Swale Design Capacity Oxford A&P Showgrounds West to East

The key points in the design are:

- The swale has capacity to take the 1 in 5-year storm event for the 1-hour storm.
- The Oxford A&P showgrounds has capacity to take the 1 in 50-year event.
- A bund along the eastern boundary of the showgrounds with the residential properties provides 300mm freeboard from the 50-year storm event. In some locations more than 300mm freeboard has been provided in the design.

No bund to the swale is generally proposed along the northern boundary to allow any potential runoff from the Church Street properties into the swale. It is recommended to continue the bund from the eastern boundary around to the west side of the garage at 41 Church Street to prevent stormwater overflow at the northeast corner of the Showgrounds. Survey levels indicate that some of these properties may flow towards this drain. There is potential that overflow of this swale could end up in these properties in large storm events. However, it is unlikely as the stormwater from the A&P showgrounds generally runs eastward. A small bund could be formed along the A&P Showgrounds side to prevent flow from the grounds into this swale on the northern side if required. Along the northern boundary there are stormwater laterals from the Church Street properties that go into the swale. These laterals would have to be accommodated in the new swale.

It is proposed to provide an easement around the Oxford A&P Showgrounds over the drainage. The easement width costed only allows for the 1 in 5-year event not the 1 in 50-year event. The 1 in 50-year event would flood onto the A&P showgrounds property due to the formation of the bund on the eastern boundary.

There are a couple of swale crossings that will need to be incorporated into the design. These are the entrance between 47 and 51 Church Street and the path through the showgrounds to the south of 15 Burnett Street. It is proposed to either put a culvert or a bridge across these sections. A bridge allows more easily for the swale cross-section and flow to be maintained.

The drawings in Appendix E provide the proposed layout, long-section and sections of the swale around the A&P showgrounds.

The alignment needs to be confirmed around the A&P showgrounds. Design plans currently show it offset from the boundary. This may wish to be more aligned with the boundary and potential removal of the pine trees along the eastern boundary.

From conversations it has been assumed that Church Street drain is at capacity, and this is not an option for additional stormwater discharge from the A&P showgrounds.

7.2. Dominic's Reserve Swale Works

The Dominic's reserve swale has been designed to take the 1 in 50-year, 1 hour storm. It is proposed to build a bund around the swale and along the eastern boundary the same height as the ground level where it enters the MainPower site.
A spillway in the form of a driveway crossing to Church Street in the northeast corner of the site is proposed. Any overflow from Dominic's Reserve would then be conveyed down Church Street to the east.
A bund height of 234.30m is recommended with a spill height of 234.00m.

From conversations it has been assumed that Church Street drain is at capacity, and this is not an option for additional stormwater discharge from Dominic's Reserve.

The drawings in Appendix E provide the proposed layout, long-section and sections of the swale and bund around the Dominic's Reserve.

7.3. Dominic's Reserve High-Capacity Sumps

The current sumps outside 69 and 71 Burnett Street and are not back entry. Installing back entry high-capacity sumps and upgrading the pipe into Dominic's reserve will help alleviated flooding in the road in these areas.

The drawings in Appendix E provide the proposed layout of the sumps and pipe upgrades.

7.4. Attenuation Basin

Should an attenuation basin be required to attenuate the catchment entering Pearson Drain from the Oxford A & P Showgrounds and surrounding residential properties to predevelopment flows a basin size of approximately 12,000m^3 is required. A large size is required as it assumed all the flow from this catchment is not entering Pearson Drain. But rather the overland flow is in an eastward direction and hence causing the flooding issues there are in Oxford.

The estimated attenuation basin sizes for the different storm events are shown in Table 3.

Table 3: Estimated attenuation volume for storm durations of additional catchment into Pearson Drain

Storm Duration	Estimate Volume of Attenuation Basin Required 9m^3
6 hours	4000m^3
12 hours	5000m^3
24 hours	7000m^3
48 hours	9000m^3
72 hours	10000m^3
96 hours	11000m^3
120 hours	12000m^3

8. The estimated attenuation basin sizes for the different storm events are shown in Assumptions

The concept design key assumptions are:

- The swales have been designed for the 5-year, 1 hour storm with an RCP2081-2100. Note the ground could be pre-saturated, and you get a short intense period of rain creating issues with limited storage in the system – the swale has not been designed for this event.
- The detention area in the A&P showgrounds has been sized for the 50-year, 1 hour storm allowing 300mm bund height along the eastern boundary of the A&P showgrounds.
- The A&P show grounds and Dominic's Reserve site levels outside of the design area will remain at the existing levels in the future.
- That Pearson's Drain has sufficient capacity to take the flow from the A&P showgrounds. The stormwater management plan did highlight the need for upgrades to the Oxford Road swale. This extra flow of water in Pearson's Drain may create more downstream issues.
- That runoff from the Oxford Area School enters the swale south of 15 Burnett Street.
- The runoff coefficients used for different surface types. The design is based on the existing housing density, surface types and that Oxford A&P showgrounds will remain as is. Oxford A&P showgrounds is at present zoned residential – this would significantly alter the runoff were it to be developed.
- Swale roughness factors – A Manning's 'n' value of 0.041 has been used in design for height varying grass across the swale section. These roughness factors can significantly alter the swale design capacity.

9. Drawings

The drawings for the proposed works at the A & P Showgrounds and Dominic's Reserve including layouts, cross-sections and long-sections can be found in Appendix E.

10. Budget Estimates

Table 4 shows the budget estimates for the different site works recommended to mitigate the flooding in the Burnett Street Area.

Table 4: Budget Estimates for Oxford Flooding Mitigation Works

Option	Budget Estimate
Oxford A&P Showgrounds Swale Works	$384,000
Dominic's Reserve Swale Works	$180,000
Dominic's Reserve High-Capacity Sumps	$102,000

A breakdown of the estimates can be found in Appendix F.

11. Discussion

The outcomes from investigation of stormwater flooding in Oxford between the areas bounded by Bay Road, High Street and Main Street and Church Street:

- There is overland flow from the Oxford A&P Showgrounds through properties on the northeast corner of the site adjacent to 37 Church Street
- The swale is chocked at 55A Burnett Street from the Oxford A&P Showgrounds where it enters residential properties.
- Water ponds in the low point outside 189 High Street (separate design works project).
- Many properties in the area rely on soakage. The soakage gets overwhelmed during heavy rainfall events and overland surface flow occurs in an eastward direction.
- There is overland flow from the Oxford A&P Showgrounds football fields through properties adjacent to 21 Burnett Street.
- There is overland flow from the stormwater basin at Dominic's Reserve overtopping down the back through the 187 High Street right of way.

Concept design solutions above have been recommended as a relatively low-cost improvements to help improve the flooding in this area. These design works are unlikely to remove all the ponding in the road but should mitigate some of the flooding in private properties. Ideally a long-term solution would be to build a stormwater network pipe system taking the stormwater flow to a drain / suitable outlet point in the area where there is sufficient capacity or building a new drain on an alignment like the old railway reserve.

12. Recommendation

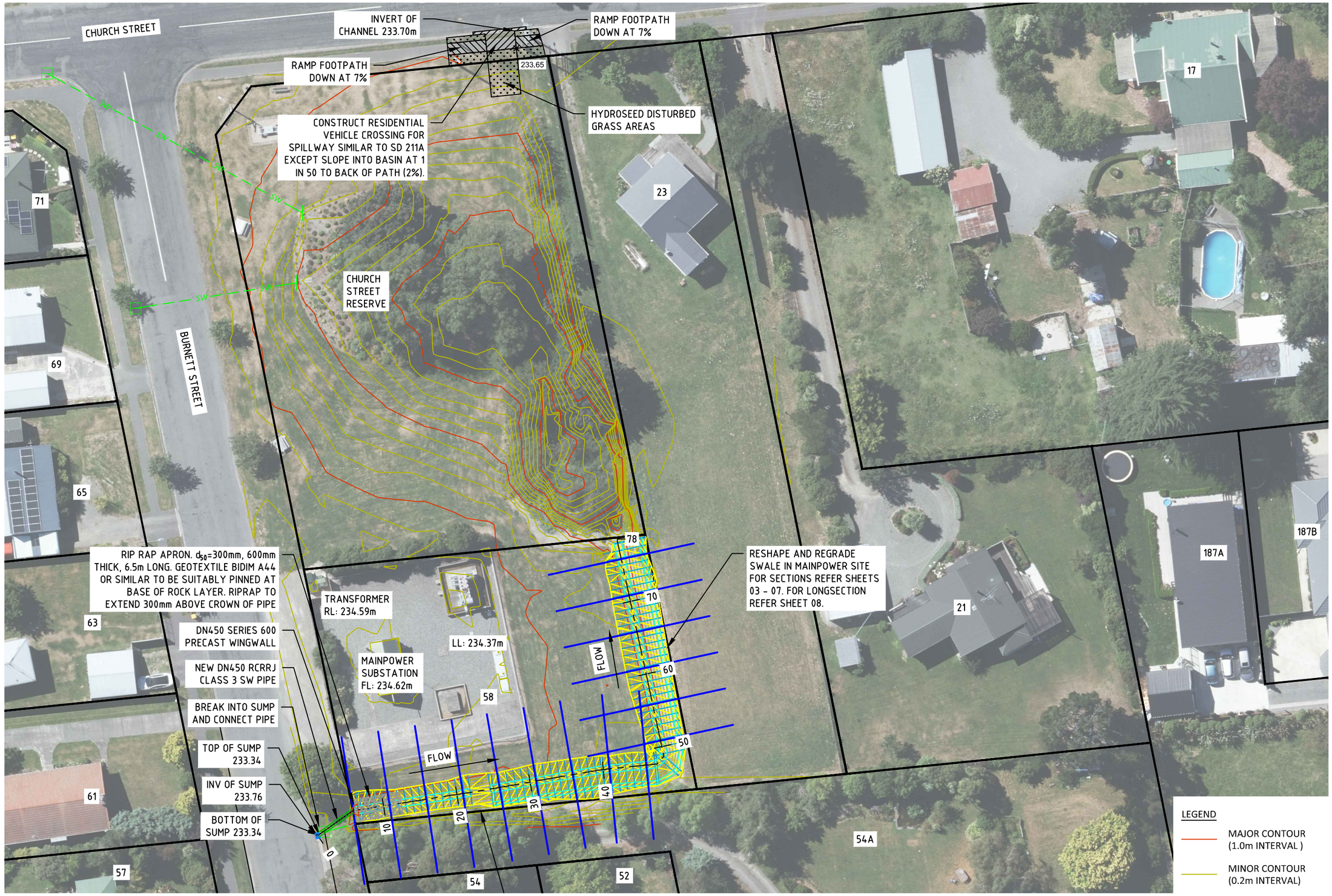
The concept design solution presented above is recommended to alleviate the flooding to Oxford properties.

Should staging of works be required the following order of works is recommended:

1. Oxford A&P swale works
2. Dominic's Reserve swale works
3. Dominic's Reserve high-capacity sump works

It is recommended that negotiations around the design be had with Oxford A&P and MainPower to the proposed works and implications for their site before further design is done.

It is recommended that the downstream capacity of Pearson's Drain is confirmed so that the effect on downstream properties of the Oxford A&P showgrounds swale upgrade is not significant in heavy rain events.



SITE PLAN - CHURCH STREET RESERVE STORMWATER UPGRADE

SCALE 1:500

5 0 10 20m

SCALE 1:500

REV	REVISION DETAILS	DRN	CHK	APP	DATE
A	PRELIMINARY DESIGN	MH	---	---	--/--/2020

SURVEYED	RR	09/2022	PROJECT No	PD001866
DRAWN	MH	05/2023	CON No	CON2020--
DRAWING CHKD	---	--/--/2020	SCALE (A3)	
DESIGNED	MH	05/2023		AS SHOWN
DESIGNED CHKD	---	--/--/2020	DATE ISSUED	
APPROVED	---	--/--/2020		--/--/2020

WAIMAKARIRI DISTRICT COUNCIL

PROJECT

OXFORD
STORMWATER UPGRADE
2023 - 2024

SHEET TITLE

CHURCH STREET RESERVE
OVERVIEW

FOR APPROVAL
NOT FOR CONSTRUCTION

DRAWING 4360

SHEET 02

REVISION A

PLOT DATE: 30/10/2023 FILE: S:\PDU\PDU JOBS\PD001800-1899\PD001866 - OXFORD SW INVESTIGATIONS - BURNETT & HIGH\5 - CAD\OXFORD SW UPGRADE CHURCH ST RESERVE.DWG

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-30 / 230707102697
REPORT TO:	RANGIORA-ASHLEY COMMUNITY BOARD
DATE OF MEETING:	11 October 2023
AUTHOR(S):	Allie Mace-Cochrane – Transportation Engineer Shane Binder, Senior Transportation Engineer
SUBJECT:	Approval to Install Stop Controls at Various Intersections along Seddon Street, Rangiora
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 from the Rangiora-Ashley Community Board to install stop controls at the following intersections in Rangiora:

- On Seddon Street at the intersection with Ayers Street;
- On Seddon Street at the intersection with White Street;
- On Seddon Street at the intersection with Kinley Street;
- On Seddon Street at the intersection with Ashgrove Street; and
- On Seddon Street at the intersection with West Belt.

1.2. The intersection of Seddon Street, with Ayers Street, White Street, Kinley Street and Ashgrove Street are 90-degree crossroad intersections. Ayers Street, White Street, Kinley Street, and Ashgrove Street are all priority roads running north-south, with the minor approaches of Seddon Street running east-west.

1.3. The intersection of Seddon Street and West Belt is a 90-degree T-intersection. West Belt is the priority road running north-south, with the minor approach of Seddon Street intersecting from the east.

1.4. A review of all the intersections along this street has been undertaken, following concerns being raised about safety at the intersections and visibility on the approaches. As none of the intersections meet the required sight distance for a Give Way control, it is recommended that all are changed to 'Stop' controls.

1.5. In all situations sight visibility at the intersections are blocked by features within private property (such as fences or vegetation) which cannot be easily removed.

2. RECOMMENDATION

THAT the Rangiora-Ashley Community Board:

(a) **Receives** Report No. 230707102697.

(b) **Approves** the intersection control changes shown in Table 1, pursuant to Section 2 of the *Land Transport Rule: Traffic Control Devices 2004* and with effect from the date of installation of the appropriate signage.

Table 1. Details of intersection control changes.

Side Road to be Controlled	Road to Remain Uncontrolled	Type of Control to be Imposed	Type of Control to be Revoked
Seddon Street	Ayers Street	Stop / Stop	Give Way
Seddon Street	White Street	Stop / Stop	Give Way
Seddon Street	Kinley Street	Stop / Stop	Give Way
Seddon Street	Ashgrove Street	Stop / Stop	Give Way
Seddon Street	West Belt	Stop	Give Way

(c) **Circulates** this report to the Utilities and Roading Committee for their information.

(d) **Notes** the existing road with priority will remain unchanged to avoid confusion, and it is the control only at the intersection which is to be changed.

3. BACKGROUND

3.1. The intersection of Seddon Street and Ayers Street is a slightly off-set crossroads intersection. Ayers Street is the priority road running north-south, while Seddon Street intersects on both the east and west side, as is shown below in Figure 1. Vegetation located within the northern and southern property boundaries limits visibility in both directions, when approaching the intersection on the eastern leg. On the western leg, the established hedgerow of the northern property and the impermeable fence of the southern property limits visibility on approach to the intersection.

Figure 1. Available sight distance at the intersection of Seddon Street and Ayers Street.

3.2. The intersection of Seddon Street and White Street is a crossroads intersection. White Street is the priority road running north-south, while Seddon Street intersects on both the east and west side, as is shown below in Figure 2. Vegetation located within the northern and southern property boundaries, and impermeable fences of both properties' limits visibility in both directions, when approaching the intersection on the eastern leg. On the western leg, the impermeable fences of both properties' limits visibility on approach to the intersection.

Figure 2. Available sight distance at the intersection of Seddon Street and White Street.

3.3. The intersection of Seddon Street and Kinley Street is a crossroads intersection. Kinley Street is the priority road running north-south, while Seddon Street intersects on both the east and west side, as is shown below in Figure 3. An established hedgerow of the southern property limits visibility to the south when approaching the intersection on the eastern leg. On the western leg, the established vegetation of the southern property and the impermeable fence of the northern property limits visibility on approach to the intersection.

Figure 3. Available sight distance at the intersection of Seddon Street and Kinley Street.

3.4. The intersection of Seddon Street and Ashgrove Street is a crossroads intersection. Ashgrove Street is the priority road running north-south, while Seddon Street intersects on both the east and west side, as is shown below in Figure 4. Vegetation located within the northern property boundary limits visibility to the south, when approaching the intersection on the eastern leg. On the western leg, the impermeable fences of both properties' limits visibility on approach to the intersection.

Figure 4. Available sight distance at the intersection of Seddon St and Ashgrove St

3.5. The intersection of Seddon Street and West Belt is a T-intersection. West Belt is the priority road running north-south, while Seddon Street intersects on the east side, as is shown below in Figure 5. Vegetation located within the southern property boundary and the impermeable fences of both properties' limits visibility in both directions, when approaching the intersection.

Figure 5. Available sight distance at the intersection of Seddon Street and West Belt.

4. ISSUES AND OPTIONS

4.1. As per the *Traffic Control Devices Manual Part 4 Section 4.1.2,* a stop control should be implemented at intersections "where at a point 9 m from the limit line on a controlled approach to the intersection, a lack of visibility means that, at an approach speed of more than 10 km/h, a driver could not see a vehicle on an uncontrolled approach at a distance (in metres) of 1.2 times the numeric value of the speed (in km/h) exceeded by 15% of vehicles approaching on the main road".

4.2. Furthermore, as per the Waka Kotahi *Guidelines for the implementation of traffic control at crossroads* (RTS 1), the use of different controls (e.g., stop control, etc.) on opposite approaches of a crossroads should be avoided to minimise driver confusion. It is therefore considered best practice to have the same traffic control on both of the minor legs of the intersection, unless other safety considerations take higher priority.

4.3. In February 2023, the Board approved stop control being installed at the Seddon Street/King Street T-intersection. Following this, further concerns have been raised about visibility at intersections along Seddon Street and staff have completed a review of the other give-way controlled intersections on Seddon Street.

4.4. Traffic and speed counts were undertaken in 2022 on each of the major roads associated with the Seddon Street intersections. Shown in Table 2 is the 85th percentile speed for each major road and the subsequent sight distance that is required on Seddon Street to retain a give way control.

Table 2. Required sight distance on Seddon Street as a result of the 85th percentile operating speed on the major roads.

Road	85th Percentile Speed (km/h)	Required Sight Distance (m)
Ayers Street	49.7	60
White Street	53.9	65
Kinley Street	55.3	66
Ashgrove Street	54.0	65
West Belt	56.3	68

4.5. As is shown in Figure 6 to Figure 14, the minimum sight distance is not achieved, in at least one direction, at each approach to the major roads. The approximate sight distance available from Seddon Street, based on Figure 1 to Figure 5, is shown in Table 3.

Table 3. Sight distance available at each of the Seddon Street intersections.

Road	Approximate Sight Distance Available on Eastern Approach (m)	Approximate Sight Distance Available on Western Approach (m)
Ayers Street	22.1	19.5
White Street	28.4	33.7
Kinley Street	31.6	35.3
Ashgrove Street	45.9	31.6
West Belt	35.9	N/A

Figure 6. Visual of sight distance available at the Seddon Street/Ayers Street intersection on the western approach.

Figure 7. Visual of sight distance available at the Seddon Street/Ayers Street intersection on the eastern approach.

Figure 8. Visual of sight distance available at the Seddon Street/White Street intersection on the western approach.

Figure 9. Visual of sight distance available at the Seddon Street/White Street intersection on the eastern approach.

Figure 10. Visual of sight distance available at the Seddon Street/Kinley Street intersection on the western approach.

Figure 11. Visual of sight distance available at the Seddon Street/Kinley Street intersection on the eastern approach.

Figure 12. Visual of sight distance available at the Seddon Street/Ashgrove Street intersection on the western approach.

Figure 13. Visual of sight distance available at the Seddon Street/Ashgrove Street intersection on the eastern approach.

Figure 14. Visual of sight distance available at the Seddon Street/West Belt intersection on the eastern approach.

4.6. The following options are available to the Rangiora-Ashley Community Board:

4.7. Option One: Approve all changes to the intersection controls along Seddon Street.

4.7.1. This option involves approving the change of the intersection controls along Seddon Street from 'give way' controls to 'stop' controls.

4.7.2. The availability of sight distance at each intersection is constrained by property fences and vegetation within property boundaries. As such, Council does not have the power to remove these fences or to request that vegetation be trimmed.

4.7.3. This is the recommended option because the required sight distance to retain a give way control is not available, in at least one direction, and at all of the approaches to the major roads along this route.

4.8. Option Two: Retain the existing intersection controls.

4.8.1. This option involves retaining the existing give way intersection controls at each of the intersections along Seddon Street.

4.8.2. This is not the recommended option because there is insufficient sight distance, in at least one direction, on the approaches to the intersections along Seddon Street. It is therefore a traffic safety issue because the control type does not imply to motorists that there is insufficient visibility.

4.9. Implications for Community Wellbeing

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

Setting appropriate intersection controls help reduce the risk of harm for a crash.

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

5. COMMUNITY VIEWS

5.1. Mana whenua

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

5.2. Groups and Organisations

5.2.1. 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**

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

5.3.2. The impact of intersection control changes are considered to be localised at the intersection.

5.3.3. Given the currently available sight distance at each of the intersections, it is assumed that most drivers will already be coming to a stop before manoeuvring through the intersection.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. **Financial Implications**

6.1.1. There are financial implications of the decisions sought by this report and this budget is included in the Annual Plan/Long Term Plan.

6.1.2. There are minimal costs associated with installing stop controls at these intersections, as all it involves is line marking and new signs. These costs can be accommodated within the Road Maintenance budgets.

6.2. **Sustainability and Climate Change Impacts**

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

6.2.2. Whilst a change to a stop control will increase emissions from vehicles coming to a complete stop and then accelerating, this increase is considered to be inconsequential.

6.2.3. It is also assumed that the majority of drivers will already be undertaking this manoeuvre due to the existing sight distance available at each intersection.

6.3. **Risk Management**

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

6.3.2. There is currently a risk that a motorist could travel through any of these intersections without seeing a conflicting vehicle due to limited visibility. The recommendations within this report will indicate to motorists that there is not sufficient visibility at the intersection, and therefore they will be inclined to abide by the law and stop at the intersection.

6.4. **Health and Safety**

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

6.4.2. This directly relates to the physical works that need to be undertaken at the intersection to change the control type. These 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. CONTEXT

7.1. **Consistency with Policy**

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

7.2. **Authorising Legislation**

7.2.1. 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**

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

7.3.2. There is a safe environment for all:

- Harm to people from natural and man-made hazards is minimised.
- Crime, injury, and harm from road crashes, gambling, and alcohol abuse are minimised.

7.4. **Authorising Delegations**

7.4.1. As per Section 3 of the Waimakariri District Council's *Delegation Manual*, the Rangiora-Ashley Community Board has the delegated authority to approve intersection control signs (e.g., stop, give way, etc.) on the roads within its ward area.