Utilities and Roading Committee

Agenda

Tuesday 16 October 2018

4.00pm

Waimakariri District Council Chambers
215 High Street
Rangiora

Members:
Cr Sandra Stewart (Chairperson)
Cr Robbie Brine
Deputy Mayor Kevin Felstead
Cr John Meyer
Cr Paul Williams
Mayor David Ayers (ex officio)
The Chairman and Members
WAIMAKARI DISTRICT COUNCIL

A Meeting of the UTILITIES AND ROADING COMMITTEE will be held in the COUNCIL CHAMBERS, 215 HIGH STREET, RANGIORA on TUESDAY 16 OCTOBER 2018 to commence at 4.00pm.

Adrienne Smith
Committee Advisor

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

BUSINESS

1 APOLOGIES

2 CONFLICTS OF INTEREST

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

3 CONFIRMATION OF MINUTES

3.1 Minutes of a meeting of the Utilities and Roading Committee held on Tuesday 21 August 2018

RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) Confirms, as a true and correct record, the minutes of a meeting of the Utilities and Roading Committee held on Tuesday 21 August 2018.

4 MATTERS ARISING

5 DEPUTATION
6 REPORTS

6.1 Review of Water Supply Bylaw 2012 - Colin Roxburgh (Water Asset Manager)

RECOMMENDATION

THAT the Utilities and Roading Committee recommends;

THAT the Council:

(a) Receives report No. 180910103408.
(b) Notes that a review of the Water Supply Bylaw 2012 has been undertaken, and it has been confirmed that there is a need for a water supply bylaw, and that the 2012 document is generally fit for purpose.
(c) Notes that the proposed Water Supply Bylaw 2018 does not provide Council with extra rights or powers than it currently has, but rather is an update of the existing document to accurately reference current practices, to clarify some clauses and to reference other policies (the Backflow Prevention Policy) that have been developed since the 2012 bylaw was adopted.
(d) Adopts the Waimakariri District Council Water Supply Bylaw 2018.
(e) Circulates this report to the Council’s Community Boards for their information.

6.2 Annual Compliance Report for Waimakariri District Council owned Drinking-Water Supplies with the Drinking Water Standards for New Zealand - Colin Roxburgh (Water Asset Manager)

RECOMMENDATION

THAT the Utilities and Roading Committee:

(a) Receives report No. 181002113999.
(b) Notes that all 15 of the Council’s drinking-water supplies met the monitoring and management obligations of the Health Act for the 2017/18 monitoring period.
(c) Notes that all 15 of the Council’s drinking-water supplies achieved bacterial compliance with the Drinking-water Standards for New Zealand for the 2017/18 monitoring period.
(d) Notes that 8 of the Council’s 15 water supplies achieved full protozoal compliance with the Drinking-water Standards for New Zealand (DWSNZ) and that of those schemes that didn’t achieve compliance in the 2017/18 period 5 are expected to gain compliance throughout the 2018/19 period.
(e) Notes that the Garrymere and Poyntzs Road water supplies require source upgrade projects to be completed in order to gain compliance, both of which are budgeted for completion in the 2019/20 financial year.
(f) Notes that further consultation is required on both the Poyntzs Road and Garrymere schemes before the projects can be completed and that in order for the projects to be completed on time, detailed design and other enabling works will need to commence in parallel with consultation rather than subsequent to consultation being completed.
(g) **Approves** staff to commence with the detailed design and associated enabling works on both the Garrymere and Poyntzs Road source upgrade projects within the current financial year to ensure sufficient time for the tendering and construction of the works within the 2019/20 financial year.

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

6.3 **Jones Street Reconstruction Concept Design - Joanne McBride (Roading and Transport Manager), Duncan Roxborough (Implementation Project Manager - District Regeneration), Gavin Lake (Roading Recovery Programme Manager)**

**RECOMMENDATION**

THAT the Utilities and Roading Committee:

(a) **Receives** report No. 181003114944

(b) **Approves** the proposed road cross section as shown in Figure 2 of the report which includes the installation of kerb and channel along both sides of the road;

(c) **Notes** that there is currently no funding available to allow for water and sewer reticulation to be installed and therefore this work will be required to be undertaken in the future;

(d) **Notes** the recovery works construction programme as presented in Attachment 1 of this report.

(e) **Forwards** this report to the Regeneration Steering Group for their information.

7 **MATTER REFERRED FROM THE OXFORD-OHOKA COMMUNITY BOARD MEETING OF 3 OCTOBER 2018**

7.1 **Proposed Closure of Stockwater Race R8-1 - Owen Davies (Drainage Asset Manager), Libica Hurley (Technical Administrator)**

**RECOMMENDATION**

THAT the Oxford-Ohoka Community Board recommends:

THAT the Utilities and Roading Committee:

(a) **Receives** report no. 180919108570

(b) **Approves** the closure of Stockwater Race R8-1.

(c) **Notes** that, following the closure of R8-1, Council staff will discuss maintenance arrangements and possible filling in of sections of the race with the affected property owners.

(d) **Notes** that, following approval to close R8-1, the Council may be required to apply for an Archaeological Authority as per requirements of *Heritage New Zealand Pouhere Toanga Act 2014*, in order to authorise earthworks associated with possible filling in of sections.
8 REPORTS FOR INFORMATION ONLY

8.1 Safety Barrier for Meyer Place Footpath - Joanne McBride (Roading and Transport Manager)
(report no. 180921109526 to the Oxford-Ohoka Community Board meeting of 3 October 2018).

9 PORTFOLIO UPDATES

9.1 Roading – Councillor John Meyer
9.2 Drainage and Stockwater – Councillor Sandra Stewart
9.3 Utilities (Water Supplies and Sewer) – Cr Paul Williams
9.4 Solid Waste– Cr Robbie Brine

10 MATTERS TO BE CONSIDERED WITH THE PUBLIC EXCLUDED

Section 48, Local Government Official Information and Meetings Act 1987

RECOMMENDATION

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:

<table>
<thead>
<tr>
<th>Item No</th>
<th>Minutes/Report of:</th>
<th>General subject of each matter to be considered</th>
<th>Reason for passing this resolution in relation to each matter</th>
<th>Ground(s) under section 48(1) for the passing of this resolution</th>
</tr>
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<tbody>
<tr>
<td>10.1</td>
<td>Report of Engineering Technician (Glenn Kempton) and Water Asset Manager (Colin Roxburgh)</td>
<td>Bay Road, Gammans Creek and Pegasus Reservoir Repairs Tender Evaluation and Contract Award Report</td>
<td>Good reason to withhold exists under Section 7</td>
<td>Section 48(1)(a)</td>
</tr>
</tbody>
</table>

This resolution is made in reliance on section 48(1)(a) 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 which would be prejudiced by the holding of the whole or relevant part of the proceedings of the meeting in public are as follows:

<table>
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<tr>
<th>Item No</th>
<th>Reason for protection of interests</th>
<th>Ref NZS 9202:2003 Appendix A</th>
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<tbody>
<tr>
<td>10.1</td>
<td>Protection of privacy of natural persons To carry out commercial activities without prejudice</td>
<td>A2(a) A2(b)ii</td>
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</table>
11 QUESTIONS

12 URGENT GENERAL BUSINESS

**BRIEFING**

At the conclusion of the meeting, there will be a briefing for the committee, on the following matter:

- Pond C Update on vegetation die-off investigations, sediment sources, and catchment management work.
WAIMAKARIRI DISTRICT COUNCIL

MINUTES OF THE MEETING OF THE UTILITIES AND ROADING COMMITTEE HELD IN THE COUNCIL CHAMBERS, 215 HIGH STREET, RANGIORA ON TUESDAY 21 AUGUST 2018 AT 4.00PM

PRESENT

Councillor S Stewart (Chairperson), Mayor D Ayers, Deputy Mayor K Felstead, Councillors R Brine, J Meyer and P Williams.

IN ATTENDANCE

Messrs J Palmer, (Chief Executive), G Cleary (Manager Utilities and Roading), K Simpson (3 Waters Manager), O Davies (Drainage Asset Manager), C Roxburgh (Water Asset Manager), Ms S Allen (Water Environment Advisor), A Smith (Committee Advisor)

The Chair acknowledged the recent passing of the former WDC Roading Manager Ken Stevenson and the significant contribution he made to the Council and the Waimakariri district during his time at the Council. Councillor Gordon also acknowledged Council Manager Utilities and Roading Gerard Cleary, who spoke at the funeral of Mr Stevenson, on behalf of the Council.

1 APOLOGIES

There were no apologies.

2 CONFLICTS OF INTEREST

There were no conflicts of interest.

3 CONFIRMATION OF MINUTES

3.1 Minutes of a meeting of the Utilities and Roading Committee held on Tuesday 19 June 2018

Moved Councillor Stewart seconded Councillor Brine

THAT the Utilities and Roading Committee:

(a) Confirms, as a true and correct record, the minutes of a meeting of the Utilities and Roading Committee held on Tuesday 19 June 2018, with the inclusion of Cr Barnett as attending.

CARRIED

4 MATTERS ARISING

There were no matters arising.
5 DEPUTATION

5.1 Michael Bate

Mr Bate was invited to speak at the meeting by the Chairperson, following a presentation at a recent meeting of the Waimakariri Water Zone Committee, where he raised concerns regarding the Kaiapoi Wastewater Treatment Plant and the impact on Pines beach of the Ocean Outfall. Mr Bate tabled copies of a letter received from the Hon David Park, Minister for the Environment, in response to an email he had sent to Hon Kelvin Davis, also raising his concerns about the Kaiapoi Wastewater Treatment Plant and the ocean outfall. (Refer to subsequent Trim document 180912105171)

Mr Bates powerpoint suggests that the Kaiapoi Wastewater Treatment Plant is inadequate and is not using current best technology practice. It is using fifty year old technology. A basic filter removes solid objects from the wastewater at the start of treatment removing objects larger than 5mm. This very basic Treatment Plant consists of an aeration pond, two oxidation ponds and settling wetland ponds before discharging the effluent to the ocean outfall. A UV light is used to try and disinfect the effluent. The treatment is basically using algae feeding on nutrients. At times due to winds, a degree of solid particulates are discharged out to see with the wastewater. There is no filter to remove solid particulates and these produce a higher nutrient level in the ocean outfall. A series of photos were presented, showing firstly the aeration pond, which has four aeration pumps (Mr Bate noted that normally only two or three are in use at any one time) and then the oxidation ponds (with beginning of algae growth consuming nutrients), sludge floating on top. A series of photos of the wetland were shown, showing a building up of sludge over the years and no real vegetation growth. This has been planted twice in the past but all plants have died. There was health green algae growth shown on the edge of water but with lack of oxygen in water, algae dies and there is a strong rotting smell. Water treatment is ineffective as algae is dead or dying. A combination of hot weather, nutrient rich, and lack of oxygen contributes to dead algae. Several photos of the dead birdlife were shown, as a result of the botulism toxin in the wetland, including protected species native Grey Teal and waterfowl. Midges carry the botulism toxins as they are not effected by them, but they are fatal to birdlife, wildlife and fish life. Mr Bate said there is around ten birds a week dying still. Mr Bate also raised concerns with the lack of technology observed where the wetland runs into the last pond before the Outfall and questioned whether this was best practice methods? Concerns were also expressed and photos shown, regarding the black toxic algae observed at the pump reservoir at the Ocean Outfall and also questioned if this is best practice. Mr Bate also showed several photos taken at Pines Beach near the Ocean Outfall, indicating discoloured foam and discoloured water and comparing this to natural clean foam. Mr Bate believes the discoloured sea foam is a by-product of the Ocean Outfall and it has only been there since the Ocean Outfall has been in operation. Mr Bate suggests there should be signs at the beach warning people. Two recent photos taken of Pines Beach on 13 and 20 August were also shared. Information from two other Councils on their wastewater treatment plans was shown and Mr Bate questioned why this serious issue is being ignored.

Following a question from Councillor Meyer on the letter response from the Minister for the Environment. Mr Bate suggests that the truth is not being told and the Minister has been misled.

Mr Bate was thanked for his presentation and it was noted the next item on the agenda deals with Council formalising an Avian botulism management plan.
6 REPORT

6.1 Avian botulism at the Kaiapoi Wastewater Treatment Plant and surroundings: 2017-18 season summary and proposed management – Sophie Allen (Water Environment Advisor) and Rob Frizzell (Wastewater Engineer)

Ms S Allen and Mr K Simpson presented this report which recommends refining current management with the formalisation of an Avian Botulism Management Plan.

Several management options have been considered, some that other Councils are using in other parts of the country. The recommended option is to continue, on an as-required basis, with increased removal frequency of bird deaths.

A long term option is to reduce the size of the wetland at the Kaiapoi WWTP, and the report considers the pros and cons for this. Staff are in the initial stages of looking at this option and it is too soon to say if this would have an impact.

During the past financial year the Council has spent $42,000 on the retrieval of bird carcasses and disposing of them safely. Staff will need to look at long term weather patterns as dryer, hotter summers impacts on this issue.

Councillor Atkinson asked about bird counts, and sought some confirmation that these counts are being undertaken and asked is there live bird counts being undertaken to compare the effect of the avian botulism? S Allen noted that bird carcass counts have been undertaken, but there has not been any counts of live birds by Council staff or contractors. There have been bird counts undertaken by relevant wildlife groups. Councillor Atkinson expressed concern that there didn’t appear to have been the remedial actions in place over the last four years. Mr Simpson confirmed that all these steps have been undertaken previously and they are now being collated together in a single management plan.

Councillor Blackie asked is there any experts that the Council could seek advice from regarding the suggestion of reducing the size of the wetland area. S Allen said this is a complex issue and it could be that advice on engineering and ecology would need to be sourced.

Councillor Brine spoke on the presence of sludge and suggested that some of the infrastructure in the WWTP looked older. Is the Council doing sludge removal and disposal? Mr Simpson said there has been some desludging works undertaken in the last 12 months which will improve the management of algae and sludge at the Kaiapoi WWTP.

Councillor Williams expressed concern that it appears the waste going out to sea is not clear enough and this could have impact on the birdlife there as well. Mr Simpson said while the Council has been fully compliant with the resource consent conditions for the ocean outfall, there is some operational challenges with avian botulism, smell, midges, sea foam, and the Council is looking at the overall improving the operation of the treatment plant. Councillor Williams suggested that the option of making the pond smaller could mean that there would be worse product going out to sea than what is going out now. Mr Simpson responded that a key part of the work would be to make sure that there is no compromise of the existing operation of the WWTP. Following a question from Councillor Williams on the collecting of samples of the sea form, it was advised that four samples of the sea foam have been taken but these were all on the same day.
Councillor Meyer noted that there had been thousands of plants planted when the wastewater treatment plant was developed and asked what would this look like if these plants were all still alive and what would the water quality be? S Allen noted that the water is too deep for these plants, and there could be different types of plants planted here. Mr Cleary said that to have a well-functioning WWTP, there is a lot of matters that need to come together. If the Council wishes, staff can engage specialists who can look at the operating function and design of the WWTP and answer all the questions. Mr Cleary said it is important to remember that this plant is still operating within the compliance requirements. Councillor Meyer believes it is time that the Council got this issue right and emphasised the need to improve the environment. Mr Cleary confirmed there could be improvements made to matters, but there is no guarantee that these improvements would correct the issues. Other Councils around New Zealand and around the world have the same kind of issues to manage. Mr Palmer added that there is always going to be challenges to this type of treatment system, being pond-based. If the Council is looking for a substantially higher quality output from the plant, there would need to be a lot of investigation undertaken to investigate what are the best options. The practical reality for Waimakariri is that there is not another affordable disposal choice in the near term. There are operational areas that are distressing to both Council and the community relating to the wildlife. Council could look at a longer term strategy if it was to look at treatment enhancement, which would be a significant piece of work, looking at it from a number of different points, including avian botulism, and also taking into account the growing population.

Councillor Gordon asked is it time for a more detailed report to come back to the committee, particularly on the matters raised by Mr Bate, which he has raised on a number of occasions. What are the options going forward and is it unreasonable for this Council to be asking what work could be done to respond to the concerns of the community? Mr Palmer said any questions to be answered would need to be clearly scoped and to what degree of specific. Mr Cleary added if this involved a change to the system completely, this would be an infrastructure strategy for the Council to consider. This has been signalled in future strategy work this could mean a very substantial cost and could be over a decade timeframe. In terms of an investigation, Mr Cleary said the scope together could be brought back to this committee by the end of this calendar year. Any consultant fees relating to this are not included in the current budget.

Following a question from Councillor Gordon, Mr Simpson acknowledged that some of the photos shown in the deputation today of the sludge and bird carcasses at the Kaiapoi WWTP, are representative of the operational challenges faced at this Plant.

Councillor Barnett suggested there could there be further testing done on the brown form on the beach to determine this is not as a result of the ocean outfall. Mr Cleary advised that it was the intention for further testing to be undertaken.

Regarding avian botulism, Councillor Barnett asked is there a national response to this, as there appears to be cases of this in many places around the country. Ms Allen is not aware of this, and it is being dealt with by each Council individually. It was advised that this Council has been coordinating with Christchurch City Council and Environment Canterbury, who have an interest from a Regional Parks perspective as well.

Councillor Barnett commented on the difficulty in retrieving dead birds, having attended the tour of the facility last year when this was discussed. Mr Simpson said the current contractor does not have a safe operating procedure to recover birds from the centre of the pond. Staff from the Council’s own Water unit have been involved in this but it was noted that there is some health and safety
measures that need to be improved on. These risks that need to be considered are drowning and injury, rather than contamination.

Moved Councillor Stewart seconded Councillor Brine

**THAT** the Utilities and Roading Committee:

(a) **Receives** report No. 180719080426.
(b) **Notes** the recommendation for the formalisation of a WDC Avian Botulism Management Plan that refines current management practices, and documents communication, collaboration, monitoring, reporting and other requirements.
(c) **Notes** the feasibility to reduce the size of Kaiapoi WWTP wetland area will investigated and reported to the Utilities and Roading Committee.
(d) **Request** staff to scope an investigation on improved operation of the Kaiapoi Wastewater Treatment Plant for a report back to the Committee by the end of 2018.
(e) **Circulates** this report to Council for information.

**CARRIED**

Councillor Brine believes this motion is a step in the right direction based on the discussion held. It is important that the staff scope the work, get the questions right and price the work required.

Councillor Atkinson supports this and does not believe that avian botulism is a natural occurrence and the Council needs to be looking at the causes. Councillor also questioned if the ocean outfall plant is working within the consent and believes the plant is not working effectively and there is the potential for the council to have to spend a significant amount to fix this issue.

Mayor Ayers said avian botulism is not just a national issue, it is a worldwide issue. The issue of sewerage is always the disposal of it, and this question will never go away.

Councillor Gordon believes it is a positive step to have the scoping report to come back to the committee before the end of the year.

Councillor Barnett would like to know what other Councils are doing with the avian botulism issue and would also like this matter raised with LGNZ.

The sea foam – Councillor Barnett does not support that this is a result of the ocean outfall, but supports having the testing to be repeated again. Investigation is needed but supports the Council using information that is available now.

Councillor Williams believes this is a very important matter for the Council to be progressing for the future.

Councillor Atkinson would like to be advised of dates when the testing of the beach foam is to recommence. Staff will follow this up.
6.2 **Management of Nitrate Levels for WDC Community Water Supplies** – Sophie Allen (Water Environment Advisor) and Colin Roxburgh (Water Asset Manager)

Ms S Allen, Messrs K Simpson and C Roxburgh presented this report which recommends that the Council adopt a position on limits for nitrate levels in community water supplies in the Waimakariri Water Zone. The Water Zone Committee is developing its ZIPA (Zone Implementation Programme Addendum), which will include the proposed limit for the groundwater nitrate levels to be introduced. This report seeks approval for the 3 Waters Staff to advocate for the management of nitrate leaching in groundwater. The draft ZIPA has a suggested median level of nitrate-nitrogen levels per litre, and Council staff endorse the setting of a lower median nitrate limit is not exceeded. The staff wish to set a limit of having 95% percentile to not exceed 5.65 mg/L nitrate-nitrogen above the MAV, and only 5% below. This would allow for much more of a buffer.

Council staff are working with ECan staff looking at the groundwater model as there have been concerns raised that there is uncertainty. The issue of private well supplies is being looked at with ECan to let people know they may need to have their private water supplies tested. A report from Beca was noted. Future options are the blending of waters, or deepening of wells.

Councillor Stewart wants assurance that the Council’s view was being taken into account by the Water Zone Committee. There also needs to be alignment with the Christchurch West Melton Water Zone Committee. C Roxburgh noted it is important to align this.

Moved Councillor Williams seconded Councillor Meyer

**THAT** the Utilities and Roading Committee recommends:

**THAT** the Council:

(a) **Receives** report No. 180719080422

(b) **Acknowledges** that 3 Waters staff, who are responsible for providing safe high quality drinking water, will advocate for the management of nitrate leaching to groundwater in the Waimakariri Water Zone to limit groundwater nitrate levels to not exceed more than 50% of the Maximum Allowable Value (MAV), as defined in the Drinking-Water Standards New Zealand, for community drinking water supplies.

(c) **Notes** that a groundwater nitrate limit will be proposed by the Waimakariri Water Zone Committee in the draft Zone Implementation Programme Addendum, to be presented to the Council on 11 September 2018.

(d) **Notes** staff are integrating management and monitoring of nitrate levels into current WDC management practices i.e. Activity Management Plans, and Water Safety Plans under the Drinking-Water Standards New Zealand.

(e) **Notes** that staff are working with Environment Canterbury for increased data input into the nitrate groundwater model from WDC water supply wells, to reduce modelled uncertainty and allow for more informed management.
(f) **Notes** that water treatment for nitrate removal is not considered a preferred option with current technology. However, options such as catchment management, and blending of water supplies are viable options.

**CARRIED**

Mayor Ayers noted that as knowledge improves, limits or measures will be able to be refined as necessary.

6.3 **Strategy for Non-Standard Rural Water Supply Connections - Colin Roxburgh (Water Asset Manager)**

C Roxburgh and K Simpson presented this report which seeks the committees approval of the proposed strategy for non-standard rural water supply connections. This is in response to issues on some properties that have been around for a long time. Some properties have just one unit connection which is less than the minimum required size for standard restricted connections of 2-units. The second issue is unrestricted connections which have the ability to unrestricted water supplies. C Roxburgh noted that these properties would need to be identified and meters installed. It is estimated to be approximately 20 of these properties in the district.

Councillor Stewart asked on the cost of metering and C Roxburgh said this is yet to be defined by the Council. Installation of meters could cost between $4,000 - $6,000 which could come from the Water Conservation and Leak Reduction budget. The goal is to reduce water use.

Moved Councillor Meyer seconded Councillor Williams

**THAT** the Utilities and Roading Committee:

(a) **Receives** report No. 180806088091.

(b) **Notes** that there are a small number of properties within the district with 1-unit connections which is less than the minimum required size for standard restricted connections.

(c) **Approves** the recommended approach for addressing 1-unit restricted connections as outlined in this report which is to allow them to remain in place until such time that the property owner applies for an increase in allocation.

(d) **Notes** that there are some properties within the district that receive unrestricted, on-demand supply on restricted schemes which creates an issue of equity with other properties.

(e) **Notes** that the current Water Supply Bylaw provides mechanisms by which Council can address this.

(f) ** Approves** staff to meter these properties with on-demand connections and adjust their targeted water rate if deemed necessary, in accordance with the methodology outlined in this report.

**CARRIED**
6.4 **20 February 2018 Storm Event – Update on Service Requests – Kalley Simpson (3 Waters Manager)**

K Simpson presented this second update following the 20 February storm event. Progress since the last update in June includes one upgrade project completed, (cnr South Belt and Southbrook Road – inlet capacity upgrades) and three drainage assessments completed. It was noted that all 208 service requests from the storm event have been responded to or acknowledged and have now all be closed off.

The first version of a web page has gone live on the Council’s website, which provides an update on drainage works.

Following a question from Councillor Gordon, K Simpson noted that there has been some progress with the work at Waikuku Beach and there is some further negotiating required with the property owners. Councillor Gordon suggested that residents need to be kept informed of these matters by Council staff.

Moved Councillor Meyer seconded Councillor Brine

THAT the Utilities and Roading Committee:

(a) **Receives** report No. 180809090003.

(b) **Notes** that of the 21 drainage assessments identified from the 208 service requests, 9 have been completed and the remaining 12 are currently underway.

(c) **Notes** that of the 11 upgrade projects related to the 208 service requests, 1 has been completed and a further 7 will be completed this financial year.

(d) **Notes** that the webpage is being setup on the Council’s website to provide updates on the status of drainage works underway.

(e) **Circulates** this report to the Council for information.

CARRIED

Councillor Stewart raised concerns that there are still so many issues that need to be resolved relating to the 20 February storm event and does not believe the current 3 Waters staffing resources is providing an acceptable level of service to the community. This department is working under stress, and Councillor Stewart welcomed a future response from Mr Palmer on this matter.

6.5 **NZTA Investment Audit Report - Joanne McBride (Roading and Transport Manager)**

Ms J McBride spoke to this report which presents the results of the NZTA Investment Audit that was carried out in March 2018. The final report was received by the Council on 27 June 2018. This audit is part of the NZTA Monitoring Investment Performance programme. The last audit was undertaken in October 2013. There were two recommendations made to the Council as a result of the audit (as noted in the recommendation) and work to review these is currently underway.

Councillor Stewart suggested the hourly charge out rates should be reviewed more regularly and it was confirmed that it was intended to do this in the future. Rates have remained static since 2009/2010 and as noted in the report, need to be reviewed to determine whether the current rates are appropriate for recovering costs.
Overall the audit found the Council is utilising all its resources to good effect and achieving good value for money outcomes.

Moved Councillor Brine seconded Councillor Williams

**THAT** the Utilities and Roading Committee:

(a) **Receives** report No. 180809089507.

(b) **Notes** the NZTA Investment Audit Report provided a positive endorsement to way the Council is managing its land transport programme and noted “Council has effective controls in place for managing financial and business processes.”

(c) **Notes** the report made two recommendation relating to the Roading Procurement Strategy and one suggestion for improvement relating to reviewing administration costs and recovery charge out rates. Work to review these items is currently underway.

(d) **Circulates** this report to the Community Boards.

**CARRIED**

6.6 **Approval of the 2018/19 Roading Programme - Joanne McBride (Roading and Transport Manager)**

Ms J McBride presented this report seeking the Committees approval of the Roading Programme for the 2018/19 year. It was noted that there is general allocation in the Roading Programme in the Councils LTP for Kerb and Channel renewals, footpath renewals and also minor safety improvements. There is some flexibility in these programmes. The Community Boards were asked for feedback on the draft programme during July and mostly the Boards supported the draft programme as presented.

Two items were highlighted:

- NZTA are looking at providing a 51% subsidy for footpath maintenance and renewal. This work has previously not attracted an NZTA subsidy and it is anticipated this will be formally approved late in August and confirmed to Council.

- A report will be brought to the Council in September regarding the Cones Road Upgrade (as mentioned in recommendation (f)).

Moved Councillor Meyer seconded Deputy Mayor Felstead

**THAT** the Utilities and Roading Committee:

(a) **Receives** report No. 180529059018;

(b) **Approves** the attached Roading Programme for the 2018/19 year (Doc 180529059012);

(c) **Authorises** the Roading Manager to make minor changes to this programme as a result of consultation or technical issues that may arise during the detailed planning phase, provided the approved budgets and levels of service are met, and the changes are reported to the Utilities & Roading Committee;
(d) **Endorses** the indicative Roading Programme for the 2018/19, 2019/20 and 2020/21 years;

(e) **Notes** that previously footpath maintenance and renewals have not attracted NZTA subsidy, however NZTA have indicated that this is to change and that a 51% subsidy is likely to be available to Council. Confirmation of this additional NZTA funding is expected to be received in late August;

(f) **Notes** that budget proposed for Cones Rd Upgrade which is included in the Minor Safety Improvements will be subject to project approval by Council and a separate report will be taken to Council on this matter;

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

CARRIED

6.7 **Seal Extensions and Roading Subdivision Contribution Budget – Joanne McBride (Roading and Transport Manager)**

Ms J McBride presented this report providing an update on the sealing of unsealed roads, which follows on from previous briefing of the committee.

Ms McBride updated the committee on the Council policy for sealing unsealed roads:

- When the road meets NZTA criteria for sealing and is approved for subsidy
- When financial contributions are at least 30% of the cost of the sealing
- When property owners agree to contribute 50% of the cost of sealing. This has a limit of 1km per year.

There has been an increase in the amount of sealing that the Council has done in the last year, and this year there have been three requests for road sealing over 5km for three sites. These are Browns Road Rangiora Readymix, North Eyre Road and Broad Road/Rangiora-Leithfield Road. This report requests approval to carry out the sealing this year, noting that there is sufficient budget for these projects.

Following a question from Councillor Williams as to why the Council would be paying 50% of the sealing of Browns Road to enable Ready Mix to seal sections of this roads. Ms McBride noted that Rangiora Ready Mix have presented to the Council in the past and Council have been in support. It was also noted that this is Council policy for a 50% cost share for seal extensions. This would be for the betterment of the district generally and would have less impact on adjacent residents and users of the road if it was sealed.

Councillor Stewart asked if there would be a possible budget issue for the Council, if there was a significant number of requests for road sealing of unsealed roads with the 50% cost share arrangement. Mr Cleary noted that generally the 1km limit is not exceeded in a 12 months period, this report being an exception. Having the limit of 1 kilometre sealing annually, is a good way of managing this, without putting demands on Council funding. Mr Cleary said the Policy is a good way to allow for the Council to manage this matter and the Policy is available to be viewed on the Council website. Ms McBride added that the general public may not be aware of this cost share being available, unless they were specifically looking for such information.
Moved Councillor Stewart seconded Councillor Brine

THAT the Utilities and Roading Committee:

(a) **Receives** report No. 180511051675;

(b) **Approves** the price of $347,897.62 (Council share $174,000) from Ready Mix to seal sections of Browns Road south of South Eyre Road as detailed in the report;

(c) **Approves** an exemption to the 50% cost share policy of 1km/year to enable Ready Mix to seal the sections of Browns Road in the 2018/19 year;

(d) **Supports** the Brown Road and North Eyre Road property owners north of the Eyre River as detailed in the report to fund 50% of the cost of sealing the roads by agreeing to approve an exemption to the 50% cost share policy of 1km/year if they come up with their share of the funding and agrees to support in principle the option of a targeted rate to help them pay;

(e) **Supports** the Broad Road/Rangiora Leithfield Road property owners as detailed in this report to fund 50% of the cost of sealing the roads by agreeing to approve an exemption to the 50% cost share policy of 1km/year if they come up with their share of the funding;

(f) **Notes** that there is sufficient funding in the Roading Subdivision Share Budget over the next two years to fund the Council share of the sealing noted above;

(g) **Notes** that financial contributions will not be able to be taken after 18 April 2022;

(h) **Agrees** to only take financial contributions if they are likely to be used within 2 or 3 years until 2022 and work to develop alternative methods of mitigating effects from development to financial contributions;

(i) **Notes** that the Roading Subdivision Budget as detailed in the LTP will remain unchanged due to the likely commitments for 2018/19 being close to the $629,000 budgeted amount.

(j) **Circulates** this report to Council and the Boards.

CARRIED

Mayor Ayers suggested the Committee discuss the matter of the cost share road sealing, as there could be a situation where there are raised expectations which the Council could not meet.

6.8 **Approval of the New Footpaths Programme – Joanne McBride (Roading and Transport Manager) and Hari Pillay (Roading Design Engineer)**

Ms McBride presented this report which seeks approval of a new footpath programme – there have been three new footpaths requested and these have been considered and included in the programme. This programme has also been taken to the four Community Boards seeking their comments in July.
Currently the District Plan requires a footpath on one side of the road on urban local roads and given the number of requests, Ms McBride asked that the committee give consideration to having footpaths on both sides of roads. This could be referred onto the District Planning and Regulation Committee for further consideration.

There could be approx. $400,000 of additional funding available if the 51% subsidy funding did become available (previously discussed in Item 6.6 in these minutes). A report will come back to the committee once this is confirmed.

Ms McBride noted the footpath from the north end of Woodend to the roundabout at Pegasus and Ravenswood, and a report will come back to the committee on this. Funding for this could come from the central government funding shared cycleway and footpath.

Councillor Gordon queried about the footpath on Blackett Street, between Stephen Street and King Street (not Church Street).

Councillor Gordon questioned about a footpath on Coldstream Road with the proposed Multi-use sports facility.

Deputy Mayor Felstead sought confirmation of the footpath on Burnt Hill Road, and this is confirmed by Mr Palmer.

Moved Councillor Meyer seconded Councillor Brine

THAT the Utilities and Roading Committee:

(a) Receives report No. 180502047634:

(b) Approves the following programme for new footpaths over the next three years as per the following table:

<table>
<thead>
<tr>
<th>Road</th>
<th>Town</th>
<th>2018/19</th>
<th>2019/20</th>
<th>2020/21</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Street (No. 136 to 152) – eastside to complete section started in 2017/18</td>
<td>Oxford</td>
<td>$34,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sandown Boulevard (Huntingdon Dr to Preschool entrance)</td>
<td>Rangiora</td>
<td>$6,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blackett Street (Stephens St to Church St) **</td>
<td>Rangiora</td>
<td>$55,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harewood Rd (Burnt Hill Rd to Main Street) **</td>
<td>Oxford</td>
<td>$35,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burnt Hill Road (Harewood Rd to Main Street) **</td>
<td>Oxford</td>
<td>$45,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chinnerys Road (Welsford St to west entrance to Reserve) – east side</td>
<td>Woodend</td>
<td>$25,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weka Street (Park Ave to end)</td>
<td>Oxford</td>
<td>$40,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Belt (Newnham St – Railway) – north side</td>
<td>Rangiora</td>
<td>$25,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Belt (No. 5 to Raymond Orr Meadows) – south side</td>
<td>Rangiora</td>
<td>$10,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chinnerys Road (Reserve east entrance to Woodglen Dr) – west side</td>
<td>Woodend</td>
<td></td>
<td>$50,000</td>
<td></td>
</tr>
<tr>
<td>Ranfurly Street (Dale St to Cridland St) – east side</td>
<td>Kaiapoi</td>
<td></td>
<td>$50,000</td>
<td></td>
</tr>
<tr>
<td>Totara Drive - east side</td>
<td>Oxford</td>
<td></td>
<td></td>
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</tbody>
</table>
** Note - Harewood Rd and Burnt Hill Rd are subject to confirmation of NZTA subsidy and a subsequent Council approval.

<table>
<thead>
<tr>
<th>Road</th>
<th>Town</th>
<th>2018/19</th>
<th>2019/20</th>
<th>2020/21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronation Street (Buckleys Rd to end) – north side</td>
<td>Rangiora</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ballarat Road (existing path to Hassall Street) – east side</td>
<td>Rangiora</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tui Street (Park Tce – Rata St) – north side</td>
<td>Oxford</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Woodfield Place (start to end)</td>
<td>Woodend</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To be allocated</td>
<td></td>
<td>$5,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$100,000</td>
<td>$100,000</td>
<td>$100,000</td>
</tr>
</tbody>
</table>

(c) **Notes** that the cost estimates are derived from the rates in the Council’s Road Maintenance Contract plus a contingency of 20%.

(d) **Supports** the construction of the footpaths being carried out under the Road Maintenance Contract on the basis this is the most cost effective method of completing this work as the contract rates are competitive and it avoids professional services and tendering costs which for straightforward work like this can be disproportionally high and would result in less footpath being constructed.

(e) **Notes** that the programme beyond 2020/21 will be confirmed and submitted to Council in 2020/21 for approval as part of the 2021-2031 LTP process.

(f) **Notes** that Blackett Street at this location is a local road and it already has a footpath on the north side of the road so it meets the current level of service; however, there is a children’s playground on the south side, the remainder of Blackett Street has a footpath on both sides and the road functions more as a collector road and so a path on both sides is justified.

(g) **Notes** that a footpath was required on one side of the road only on Sandown Boulevard and the need is high, therefore it is recommended that this footpath is constructed in the short term.

(h) **Notes** the submission requesting a new footpath on Main North Road at the north end of Woodend and agrees to investigate this further for possible inclusion in the 2021-31 LTP.

(i) **Supports** the inclusion of new footpaths in Harewood Road and Burnt Hill Road in the programme, subject to NZTA confirmation of 51% subsidy for Footpath Renewals and subsequent approval to reallocate budget by Council;

(j) **Supports** referring the issue of footpaths and whether they should be constructed on both sides of local roads to the District Plan Review Committee for further consideration;

(k) **Circulates** this report to the Community Boards and Council.

**CARRIED**
7 **REPORTS FOR INFORMATION ONLY**

7.1 **Crayfish (Koura) Creek Pedestrian Footbridge** – Owen Davies (Drainage Asset Manager)  
(report no. 180627071243 to the Rangiora-Ashley Community Board meeting of 11 July 2018).

7.2 **Request to Engage Nairn Electrical – Darnley Square Generator** – Colin Roxburgh (Water Asset Manager)  
(report no. 180724082480 to the Management Team meeting of 30 July 2018).

Moved Councillor Stewart seconded Councillor Williams

THAT Items 7.1 – 7.2 be received for information.

CARRIED

8 **PORTFOLIO UPDATES**

8.1 **Roading** – Councillor John Meyer

Councillor Meyer noted the new street opening in Kaiapoi, which is certainly appreciated by the locals.

8.2 **Drainage and Stockwater** – Councillor Sandra Stewart

Councillor Stewart noted a Stockwater Race meeting last week, some closures were mentioned. Some of the group see this as a concern but with the extensive network of the system, these are quite minor. The Stockwater Race Bylaw is up for review this year. Ms Stewart has also been a Clarkville Rural Drainage Advisory Group meeting last month. Work of the Water Zone Committee is progressing with the ZIPA.

8.3 **Utilities (Water Supplies and Sewer)** – Cr Paul Williams

Councillor Williams noted his concerns with the restrictions already in place on the Ashley Rural Water Scheme and summer is not here yet. He has attended meetings with user groups for Poyntz Road and Summerhill water schemes

8.4 **Solid Waste** – Cr Robbie Brine

Councillor Brine noted a meeting of the SHWWP was held last week.

9 **QUESTIONS**

There were no questions.
10 URGENT GENERAL BUSINESS

There was no urgent general business.

There being no further business, the meeting closed at 6.16pm.

CONFIRMED

____________________________
Chairperson

____________________________
Date

BRIEFING

At the conclusion of the meeting a briefing was held on the following matters:

- Update on Network Discharge Consents – Revised programme and potential change to approach for high risk sites.
- Update on Springbrook Flood Works – Revised Scope, H&S works on old WWTP and update on programme
- Water issues
1. **SUMMARY**

1.1 This purpose of this report is to request the Utility and Roading Committee’s recommendation for the Council’s approval to renew the *Water Supply Bylaw 2012*.

1.2 The trigger for the review is the 5 year anniversary of the original Water Supply Bylaw, which was adopted in April 2012. The original bylaw was made under provisions of Section 145 and 146 of the *Local Government Act 2002*.

1.3 In February 2018, a review of the need for the Water Supply Bylaw was undertaken (record number 180226020068). It was confirmed that the objectives of the 2012 bylaw are still relevant, and that the bylaw is the best mechanism to achieve these objectives.

1.4 The review of the content of the 2012 bylaw concluded that no significant changes are necessary. Some minor changes are recommended to provide clarification to some clauses, or to reference policies that have been developed since the 2012 bylaw was adopted (specifically the Backflow Prevention Policy which was adopted in 2014).

1.5 Generally a review of a bylaw would trigger a need to consult on the changes. However, in this case, where the updates are not material, this is not required per Section 156 (2) (a) of the *Local Government act 2002*.

**Attachments:**

i. Proposed *Water Supply Bylaw 2018*, with changes marked (180910103410)

2. **RECOMMENDATION**

**THAT** the Utilities and Roading Committee recommends;

**THAT** the Council:

(a) *Receives* report No. 180910103408.

(b) *Notes* that a review of the *Water Supply Bylaw 2012* has been undertaken, and it has been confirmed that there is a need for a water supply bylaw, and that the 2012 document is generally fit for purpose.
(c) **Notes** that the proposed *Water Supply Bylaw 2018* does not provide Council with extra rights or powers than it currently has, but rather is an update of the existing document to accurately reference current practices, to clarify some clauses and to reference other policies (the Backflow Prevention Policy) that have been developed since the 2012 bylaw was adopted.

(d) **Adopts** the Waimakariri District Council *Water Supply Bylaw 2018*.

(e) **Circulates** this report to the Council’s Community Boards for their information.

3. **BACKGROUND**

3.1 In 2011, it was identified that Council did not have any mechanism for regulating its supply of water to communities within the District, and that it relied heavily on public and businesses to “do the right thing” when it comes to usage of potable water that is supplied by the Council (refer to report 110923043442 to the Utilities and Roading Committee in October 2011).

3.2 For the above reason, a bylaw was created to set our requirements of customers that seek access to the water supply, those undertaking excavations around existing water supply assets, and those that are connected to or draw water from one of Council’s public water supply schemes.

3.3 A draft bylaw was prepared, and community consultation undertaken. Submissions on the original bylaw opened from January to February 2012. Four submissions on the draft bylaw were received. Following this consultation process, minor amendments were made to the draft document and the final water supply bylaw was adopted and came into effect on 3 April 2012 (refer report to Council 120320015367 regarding adoption of 2012 Bylaw).

3.4 A review of the bylaw is required to commence once the bylaw has been in force for 5 years (April 2017), and must be completed within 2 years from that date (April 2019).

3.5 The first step in the process of reviewing the bylaw is to confirm the need for a bylaw. This was carried out in February 2018 and is documented in memo 180226020068. The objectives of the 2012 bylaw were reviewed and considered to still be relevant. Further, the bylaw is still considered to be the most effective tool for achieving its objectives.

3.6 It is noted that the bylaw is not commonly used for enforcement activities. However it is commonly used to assist in answering questions regarding Council’s rights and responsibilities. Therefore, it has proven to be a useful tool since its adoption on 2012.

3.7 Based on the above it was concluded that there is a need for the bylaw and that it should be renewed.

4. **ISSUES AND OPTIONS**

4.1. A key part of the 2017/18 review of the Water Supply Bylaw was to determine whether significant changes were required (i.e. changes to Council’s rights, responsibilities or powers), or minor changes (i.e. changing or updating the content of the document without changing Council’s rights, responsibilities or powers).

4.2. The significance of the above assessment is that if the changes are significant, there is a need to consult through a Special Consultative Procedure. Conversely if the changes are not significant then there is not a need to consult and the renewal of the document can be approved by Council.
4.3. Following review of the 2012 document it was concluded that the bylaw is fit for purpose, and substantial changes are not required. The nature of the types of changes recommended are given on Table 1.

Table 1: Summary of Significance of Proposed Changes to Bylaw

<table>
<thead>
<tr>
<th>Section</th>
<th>Description of Reason for Change</th>
<th>Significance of Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3 and 4.2</td>
<td>Adding clarification that the bylaw does not apply to private water supplies.</td>
<td>Clarification of existing application of bylaw.</td>
</tr>
<tr>
<td>7.3</td>
<td>Updating wording to explain where fees and changes are published.</td>
<td>Update to better explain where customers can find information.</td>
</tr>
<tr>
<td>15.</td>
<td>Updating of the bylaw to refer to the Council’s Backflow Prevention Policy. The 2012 bylaw document was written prior to the Council having a Backflow Prevention Policy, which Council adopted in 2014. Therefore the bylaw outlined some of the requirements that would later be adopted and better defined under the Backflow Prevention Policy. With the Backflow Prevention Policy now in place, there is no need to explicitly outline the requirements of the Backflow Prevention Policy within the bylaw, but instead just to refer to the need to comply with the Backflow Prevention Policy.</td>
<td>Does not give Council any additional rights – just refers to rights / responsibilities already allowed under the Backflow Prevention Policy which was adopted in 2014, and the intent referenced in the 2012 bylaw.</td>
</tr>
<tr>
<td>7.7, 10.3 and 14.6</td>
<td>Update as Engineering Code of Practice not necessarily available at service centres, but is available on the website.</td>
<td>Update to better explain where customers can find information.</td>
</tr>
<tr>
<td>9.1</td>
<td>Updating to make clear the nature of a water outage may just be a loss of pressure, rather than a complete loss of supply (if it is a partial outage rather than full outage).</td>
<td>Update to provide more clarification on nature on potential water outages that could occur.</td>
</tr>
<tr>
<td>10.1 and 10.2</td>
<td>Minor changes to wording to make sentences clearer</td>
<td>Not significant.</td>
</tr>
<tr>
<td>11.1 (a) and (b)</td>
<td>Providing clarification to the type of checks that Council may access a property to undertake.</td>
<td>Not significant as this is explaining current practice.</td>
</tr>
<tr>
<td>12.1</td>
<td>Providing clarification of where service valves are located.</td>
<td>Not significant.</td>
</tr>
<tr>
<td>13.2</td>
<td>Council issues permits to use tanker filling points (rather than consents) so clarifying terminology.</td>
<td>Not significant.</td>
</tr>
<tr>
<td>14.1 and 14.2</td>
<td>Update wording as Council does not necessarily have as-built information available for all buried services, but has GIS plans that were derived from as-builts.</td>
<td>Clarifying information that is provided and available for buried services.</td>
</tr>
<tr>
<td>14.3</td>
<td>Referencing pre-existing requirements for any work within the road corridor.</td>
<td>No new requirements, just referencing existing requirements.</td>
</tr>
<tr>
<td>14.5</td>
<td>Change is to provide additional detail as to what circumstances may lead to buried services being marked out.</td>
<td>Providing further explanation of requirements / current practice.</td>
</tr>
<tr>
<td>17</td>
<td>Updating heading to better reflect contents of that section of bylaw.</td>
<td>Not significant.</td>
</tr>
<tr>
<td>19.3</td>
<td>Updated wording to reflect that restrictions may not necessarily be due to high demand, but could be due to constraints in what can be supplied or delivered.</td>
<td>Providing clearer description of potential needs for restrictions.</td>
</tr>
<tr>
<td>22.1 and 23.4</td>
<td>Re-ordering of sentence for clarity.</td>
<td>Not significant.</td>
</tr>
</tbody>
</table>
4.4. As is outlined in Table 1, the proposed changes to the bylaw are not significant, but are generally providing additional detail or clarification about existing rights and practices.

4.5. The Management Team have reviewed this report and support the recommendations.

5. **COMMUNITY VIEWS**

5.1. **Groups and Organisations**

5.2. No groups or organisations have been consulted with regarding the proposed changes to the Water Supply Bylaw. This is due to the nature of the changes being deemed to not be significant and are simply clarifications of existing systems, practices or policies.

5.3. **Wider Community**

5.4. The wider community has not been consulted regarding the proposed changes to the Water Supply Bylaw, for the same reasons described above under 5.2. It is noted that when a Special Consultative Procedure was undertaken for the 2012 bylaw, there were 4 submissions received, signally a relatively low level of interest from the community at that time.

6. **IMPLICATIONS AND RISKS**

6.1. **Financial Implications**

6.2. As no significant changes are proposed as a result of the bylaw, there are no financial implications of proposed changes.

6.3. **Community Implications**

6.4. As part of the consideration for the need of the bylaw, community implications were considered. The bylaw sets out practices and requirements to protect, promote and maintain public health through the provision of water services, therefore is seen to have position implications for the community.

6.5. **Risk Management**

6.6. Without a bylaw there would be risks that Council’s ability to provide and protect its water supplies may be compromised.

6.7. **Health and Safety**

6.8. The objective of the Water Supply Bylaw is to protect, promote and maintain public health and safety through the provision of water services in the Waimakariri district by making rules for the supply and protection of drinking-water.

7. **CONTEXT**

7.1. **Policy**

This matter is not a matter of significance in terms of the Council’s Significance and Engagement Policy. This was determined through the analysis of the significance of the changes to the bylaw.

7.2. **Legislation**

The *Health (Drinking-water) Amendment Act* and the *Local Government Act* (Section 145 and 146) and (Sections 155 to 160) are relevant in this matter.
7.3. **Community Outcomes**

The *Water Supply Bylaw 2018* will continue to contribute to the following community outcomes:

*There is a safe environment for all*

- *Harm to people from natural and manmade hazards is minimised*

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. **Delegations**

The Council has the authority to adopt the proposed *Water Supply Bylaw 2018.*
OBJECTIVE

To protect, promote and maintain public health and safety through the provision of water services in the Waimakariri District.

Adopted at a Council Meeting held on 36 April-November 2012

______________________________
Chief Executive

______________________________
Administration Manager
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<td>21</td>
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</table>
WAIMAKARIRI DISTRICT COUNCIL WATER SUPPLY BYLAW 2012

The Waimakariri District Council makes this bylaw pursuant to Section 145 and 146 of the Local Government Act 2002; Section 64 of the Health Act 1956 and any other Act or Authority enabling Council in that behalf.

Any person who has permission under any other Bylaw, Act, Regulation, or resource consent to carry out any activity, that conflicts with any requirement of this Bylaw, does not breach this Bylaw when acting in accordance with that permission.

1. **Short Title, Commencement and Application**

   1.1 This Bylaw is the Waimakariri District Council Water Supply Bylaw 2012.

   1.2 This Bylaw shall come into force on 6 November 2018.

   1.3 This Bylaw applies to the Waimakariri District, but does not apply to properties that receive potable water from the Hurunui District Council or private water supplies.

2. **Purpose**

   2.1 The purpose of this Bylaw is to protect, promote and maintain public health and safety, to protect public water supply infrastructure, to protect the public from nuisance by making rules for the supply of water, and to manage and regulate the Council’s water supply.

3. **Objectives**

   3.1 The objectives of the Bylaw are to:

   - Provide for public health and safety in the supply of water.
   - Ensure fair and reasonable use of the resource.
   - Define the obligations of installers, owners and the public in matters related to the public supply of water.
   - Protect publicly owned water supply network infrastructure from incorrect use and damage.
   - Promote the responsible use of water in the District, ensuring that all fittings and appliances connected to the public water supply achieve optimum performance with a minimum of consumption of water and incorporate safeguards to prevent waste.
   - Enable the effective enforcement of any applicable water restrictions that may be imposed by the Council from time to time.
   - Enable the volumes of water consumed on any premises by any extraordinary user of a Council water supply to be assessed for rating purposes, and provide for meters accordingly.
4. **Scope**

4.1 This Bylaw is made under the authority of the Local Government Act 2002 for the supply of water to its customers by the Waimakariri District Council. The supply and rating for water by the Council is subject to:

- **Statutory Acts and Regulations:**
  - Building Act 2004
  - Fire Service Act 1975
  - Health Act 1956
  - Health (Drinking Water) Amendment Act 2007
  - Local Government Act 2002
  - Local Government (Rating) Act 2002
  - Resource Management Act 1991

- **Relevant codes and standards:**
  - Drinking Water Standards for New Zealand 2005 (revised 2008)
  - New Zealand Building Code
  - BS EN 14154-3:2005 Water Meters. Test methods and equipment.
  - SNZ PAS 4509:2003 New Zealand Fire Service fire fighting water supplies code of practice.
  - Waimakariri District Council Engineering Code of Practice.
  - Waimakariri District Council Backflow Prevention Policy.
  - Waimakariri District Council Underground Service Locating Policy.

4.2 This Bylaw does not apply to any property within the Waimakariri District that receives potable water from the Hurunui District Council or private water supplies.

5. **Interpretation**

5.1 Definitions are set out in Section 6 unless the context requires otherwise. A reference to a repealed enactment should be read as a reference to its replacement.

5.2 For the purpose of the Bylaw, the word ‘shall’ refers to practices that are mandatory for compliance with this Bylaw, while the word ‘should’ refers to practices that are advised or recommended.

6. **Definitions**

AIR GAP SEPARATION means a physical separation between the free flowing discharge end of a potable water supply pipeline, and the highest overflow level of the receiving vessel, used to prevent backflow.

APPROVED means permitted in writing by the Council, either by resolution of the Council or by any officer of the Council authorised for that purpose.

AUTHORISED OFFICER or AGENT means any person appointed in writing by the Chief Executive or by the Council to act on its behalf and with its authority.
**BACKFLOW** means the unplanned reversal of flow of water or mixtures of water and contaminants into the water supply network.

**BACKFLOW PREVENTION DEVICE** means a device that prevents backflow of water or mixtures of water and contaminants back into the water supply network.

**CHAMBERS** means the housing for any fittings.

**CONNECTION** means the service pipe from the Council’s watermain to the point of supply that is owned and maintained by the Council and includes any pipes, valves, manifolds, water meters, backflow prevention device that is installed on the Council’s side of the point of supply and the protection structure for any such backflow prevention device, and the water meter box.

**COUNCIL** means the Waimakariri District Council or any officer authorised to exercise the authority of the Council.

**COUNCIL WATER SUPPLY** means the Council’s supply of potable water to its customers.

**CUSTOMER** means the owner of any property who has obtained the right to use, or direct the manner of use of, water supplied by the Council to any premises.

**DETECTOR CHECK VALVE** means a check (non-return) valve which has a positive closing pressure and a metered bypass to measure flows typically associated with leakage or unauthorised use on a dedicated fire supply.

**DISTRICT** means the Waimakariri District as constituted by the Local Government (Canterbury Region) Reorganisation Order 1989.

**EXTRAORDINARY SUPPLY** means a category of an on demand supply including all purposes for which water is supplied other than ordinary domestic supply and which may be subject to specific conditions and limitations.

**EXTRAORDINARY USER** means a customer that receives an extraordinary supply of water and that specifically includes the following water users:

- Commercial or business premises (including home-based commercial activities e.g. dentists, hairdressers, bed and breakfast and other cottage type industries).
- Industrial premises.
- Temporary supplies.
- Out of District customers (supply to or within another local authority).
- Public facilities, parks and reserves.
- Educational facilities.
- Any premises at which a horticultural or agricultural land use is occurring and that is potentially a high water user.
- Properties with fire protection systems other than sprinkler systems designed to comply with NZS 4517.
- Any property with a connection larger than 20mm nominal bore.

- Any other property found by the Council to be using more than 150% of the assessed reasonable average daily use over a 12 month period as defined in the Waimakariri District Council Water Conservation Strategy (available to view on the Council’s website).

**FEES AND CHARGES** means the list of items, terms, and prices for services associated with the supply of water as adopted by the Council in accordance with the Local Government Act 2002 and the Local Government (Rating) Act 2002.

**FITTING** means any apparatus or appliance together with the necessary accessories and connection which may be attached to or associated with the plumbing or drainage system of any premises, or which is intended for the collection or retention of any waste materials or liquid wastes for ultimate discharge to a drain.

**FIRE INSTALLATION** means a water installation which conveys water solely for the purpose of fire fighting.

**KERBSIDE, FOOTPATH, or ROADSIDE** means an area on the road reserve outside a property.

**LEVEL OF SERVICE** means the measurable performance standards on which the Council undertakes to supply water to its customers.

**METER** means a Council owned device that is used to measure the volume of supplied water.

**NUISANCE** means anything that disturbs the reasonable use of the water supply or endangers life and health or is offensive.

**OCCUPIER** means the inhabitant of any property including any person who, for the time being, is in control of the premises, and in any case where any building, house, tenement, or premises is or are uninhabited shall be deemed to include the owner as hereinafter defined.

**OFFENCE** includes any act or omission in relation to this Bylaw or any part thereof for which any person is liable for prosecution.

**ON DEMAND SUPPLY** means a supply which is available directly to the customer without restriction of flow from the point of supply subject to the agreed levels of service.

**ORDINARY SUPPLY** means a category of an on demand supply used solely for domestic purposes, excluding any identified extraordinary water use.

**OWNER** has the definition as specified in Part 1, section 2 of the Resource Management Act 1991.

**PERMIT** means any written permission or consent required by this Bylaw or any relevant legislation.
PERSON means a natural person, corporation sole or a body of persons whether corporate or otherwise.

POINT OF SUPPLY means the point where the connection meets the supply pipe and it marks the boundary of responsibility between the customer and the Council, irrespective of property boundaries.

PREMISES means
(a) A property or allotment which is held under a separate certificate of title or for which a separate certificate of title may be issued and in respect of which a building consent has been or may be issued; or
(b) A building or part of a building that has been defined as an individual unit by a cross-lease, unit title or company lease and for which a certificate of title is available; or
(c) Land held in public ownership (e.g. reserve) for a particular purpose.

PUBLIC NOTICE means information that is published on at least one occasion in a newspaper with a weekly or more frequent circulation to the area, or under emergency conditions, by the most practical means available at that time.

RESTRICTED SUPPLY means a type of water supply where a limited flow is supplied by a flow control device, and storage is provided on-site by the customer to cater for demand fluctuations.

RESTRICCTOR means a flow control device fitted to the service pipe to limit the flow rate of water to a customer’s premises.

RESIDENTIAL 4 ZONE PROPERTY means a property as defined by the Waimakariri District Plan.

ROADING AUTHORITY means a territorial authority or the New Zealand Transport Agency.

RURAL PROPERTY means a property as defined by the Waimakariri District Plan.

SERVICE PIPE means that section of water pipe between a water main and the point of supply that is owned and maintained by the Council.

SERVICE VALVE or TOBY VALVE means a Council owned valve that may be located on the Council’s service pipe or at the point of supply.

STORAGE TANK means a secure vessel for holding potable water.

SUPPLY PIPE means that section of pipe between the point of supply and the customer’s premises that is installed, owned and maintained by the customer.

SUPPLY VALVE means a valve that is located on the customer’s supply pipe and is the customer’s responsibility.

UNIT OF WATER means a flow of water that is equivalent to 1,000 litres a day for any restricted water connection.

WATER SUPPLY NETWORK means all the components of the Council water supply between the point of abstraction from the natural environment and the point of supply. This includes but is not limited to: wells, infiltration galleries, intake structures, open raw water storage ponds and/or lakes, falling mains, treatment plants, treated water
7. **Supply of Water**

7.1 Each property in the District shall generally be entitled to potable water supplied from the Council subject to each of the following conditions:

(a) Meeting the criteria in the Council’s Water Supply Extension Policy, and
(b) Payment of a connection fee for new connections, and
(c) Payment of a Development or Financial Contribution where applicable, and
(d) Payment of the appropriate water rates, and
(e) A public supply being physically available with adequate capacity.

7.2 The Council shall be under no obligation to provide an on-demand or restricted supply of water.

7.3 Any person wishing to connect to a reticulated Council water supply or receive a supply of additional water units must either:

(a) Complete and submit the “Application for the Supply of Water” form (available on the Council’s website and from any Council Service Centre) and will be invoiced upon installation of the connection as prescribed in the Council’s Fees and Charges manual as published on the Council’s website and the Application for the Supply of Water form; or
(b) Obtain a subdivision consent with a condition requiring connection to a Council water supply and comply with all the relevant consent conditions.

7.4 For applications made under clause 7.3 (a), the following provisions apply:

(a) The applicant must be the owner or have the authority to act on behalf of the owner of the premises for which the supply is sought, and shall produce written evidence of this if required.

(b) The Council or its authorised officer shall approve the following:

(i) The type of water supply to be provided to any premises (restricted or on-demand)
(ii) The size of the connection to be provided to any premises
(iii) The design of the connection to be provided to any premises
(iv) Any additional elements of the connection or supply including water meters, pipes, valves, backflow prevention devices and any other equipment deemed necessary by the Council.

(c) Upon approval, the Council will install the connection at the applicant’s expense.

(d) The Council is entitled to refuse the application and notify the applicant of the decision giving the reasons for refusal.

(e) No person shall act on a written authorisation that is more than 12 months old to supply water unless an extension of time is authorised in writing by the Council.
7.5 No person shall be supplied water unless the supply is authorised in writing by the Council.

7.6 A premises shall only have one connection, unless otherwise authorised in writing by the Council.

7.7 A customer who has altered, or who seeks to alter the ground levels in the vicinity of the connection shall be responsible for the alteration of the existing service pipe and cover to ensure the connection complies with the Council’s Engineering Code of Practice (available on the Council’s website) and at Council service centres and libraries. Such work shall be carried out by the Council at the owner’s expense.

7.8 Where a customer supplies and installs a new or altered supply pipe up to the point of supply, the customer shall contact the Council to arrange an inspection and obtain written approval of the completed works prior to covering the supply pipe.

8. **Level of Service**

8.1 The Council has target levels of service for each water supply specified in its Activity Management Plan. The Council makes every reasonable effort to achieve these levels of service.

8.2 The Council is not liable for any loss, damage or inconvenience which the customer (or any person using the supply) may sustain as a result of deficiencies in, or interruptions to, the water supply.

8.3 The Council does not guarantee any specified maximum or minimum pressure in its Council water supply and no allowance or compensation will be made or allowed on account of a change of pressure in the supply.

9. **Continuity of Supply**

9.1 The Council does not guarantee an uninterrupted supply of water to any premises or a guarantee of water pressure.

9.2 A customer with a particular requirement for an uninterrupted level of service (flow, pressure or quality), shall be responsible for providing any necessary storage, back up facilities, or equipment to satisfy that requirement at their own expense, and should notify the Council of their particular requirements.

9.3 The Council may shut down the supply of water to any part of the District in order to maintain, repair, alter or extend its water supply network.

9.4 Where practical the Council will make every reasonable attempt to notify the potentially affected persons of a scheduled maintenance shut down of the supply before the work commences. Where immediate action is required and this is not practical, the Council may shut down the supply without notification.

9.5 The customer may use the service valve to isolate the supply to the customer’s premises. The Council does not guarantee that any Council service valve will be operational at all times.

10. **Point of Supply**
10.1 The Council shall own and maintain the service pipe from the water main up to the point of supply. For new connections, the Council shall assume ownership and maintain the service pipe from the water main up to the point of supply, upon completion of the installation and subsequent acceptance by the Council.

10.2 A customer shall own and maintain and be responsible for the supply pipe between the point of supply and the customer’s premises.

10.3 Any new water connection, installed after the adoption of this Bylaw, shall be located and installed in accordance with the Waimakariri District Council’s Engineering Code of Practice, available at the service centres, libraries, and on the Council’s website.

10.4 The following diagram indicates a typical layout of the point of supply for a standard premises.

10.5 The following three diagrams indicate different scenarios for the layout of multiple points of supply for properties on private “rights of way” or private lanes.
Single Service Pipe Feeding Multiple Properties

Note: The above layout is NOT to be used on new properties.

Service Pipes Feeding Multiple Properties with Multiple Service Valves

Note: All new multiple properties are serviced using this method, unless specifically approved otherwise by the Council.
Service Pipe Feeding Multiple Properties Without a Main Service Valve And With an Easement in Gross

Note: The above method is not to be used on new properties, unless specifically approved by Council, and the length of the private lane or right of way exceeds 500 metres and the service pipe is protected by an easement in gross.

11. **Access to Point of Supply**

11.1 An authorised Council officer shall be entitled to enter premises that have a water supply on any day between 7.30am and 6pm to have access to the point of supply:

(a) Without notice in order to read the water meter, check the restrictor or undertake any necessary testing that will not interrupt the supply; or
(b) With notice being given whenever possible to check, test or undertake maintenance work that may interrupt the supply temporarily or to check whether an offence may be occurring.

11.2 At all other times the authorised officer shall give notice prior to entering premises except in emergency situations when authorised officers shall be entitled to enter premises that have a water supply at any hour without notice as specified in the Local Government Act 2002.

11.3 If an authorised officer is prevented from having access to the property at any of the above times and a return visit is required, the Council may recover actual costs for that visit from the property owner.

11.4 The customer shall ensure that the area in and around the point of supply is maintained free of soil, growth, or other matter or obstruction which prevents, or is likely to prevent convenient access by authorised officers.

12. **Protection of Water Supply**
12.1 No person other than the Council and its authorised officers or agents shall have access to any part of the water supply network unless with approval in writing from the Council, except to connect to the point of supply as specified in Section 7 Supply of Water, and to operate the service valve at the point of supply.

12.2 Except as set out in the Section 13 on Fire Hydrants, no person shall make any connection to, or otherwise interfere with, any part of the water supply network, unless with approval in writing from the Council.

12.3 The customer shall take due care not to damage any part of the water supply network, including but not limited to pipework, valves, meters, restrictors, chambers, and backflow prevention devices.

12.4 Subject to the provisions of the Local Government Act 2002, the customer shall allow the Council with or without equipment, access to any area of the premises for the purposes of determining compliance with clause 12.3.

12.5 Where, in the opinion of the Council, any pipe, tap, appliance, or fitting used in relation to any water supply at any premises has deteriorated, has been damaged or is of inferior quality or workmanship, or is causing or is likely to cause water to be wasted, or is insufficient for the proper supply of water, the Council may give the customer notice in writing requiring the defect (as specified in the notice) to be rectified within a reasonable time which shall be specified in the notice.

13. Fire Hydrants

13.1 Only the attending fire service/s shall gain access to, and draw water from fire hydrants for the purposes of fighting fires, training and testing.

13.2 The right to gain access to, and draw water from a water supply for uses other than fire fighting (for example, flow testing or pipe flushing) shall be restricted to:

(a) The Council and its authorised officers or agents;
(b) Water abstraction consent/permit holders during the period for which the consent/permit has been issued, and only for the specified fire hydrant or dedicated tanker filling point.

14. Working Around Buried Services

14.1 The Council shall keep permanent records (as-builts) of the location of its buried services. This information shall be available for inspection at no cost to users. Charges may be levied to cover the costs of providing copies of this information.

14.2 Any person proposing to carry out excavation work shall view the as-built information/Council records to establish whether or not Council services are located in the vicinity. Where Council services are present, copies of the relevant as-built service location information shall be present on site.

14.3 At least five working days written notice shall be given to the Council of an intention to excavate in the vicinity of its services, or the notice as required in the National Code of Practice for Utility Operators’ Access to Transport Corridors, whichever is greater.

14.4 Excavation within roadways is also subject to the permit process of the appropriate roading authority.
14.5 Where appropriate deemed necessary or requested to protect its services, the Council shall mark out to within plus or minus 0.5m on the ground the location of its services, and nominate in writing any restrictions on the work it considers necessary to protect its services. The Council may charge for this service.

14.6 When excavating and working around buried services due care shall be taken to ensure the services are not damaged, and that bedding and backfill are reinstated in accordance with the Council’s Engineering Code of Practice (available on the Council’s website).

14.7 Any damage which occurs to any component of the Council’s water supply network shall be reported to the Council immediately. Any person causing damage is responsible to meet all of the costs associated with repairing that damage.

15. **Backflow Prevention**

15.1 It is the customer’s responsibility (under the Health (Drinking Water) Amendment Act 2007 and the Building Act 2004), to take all necessary measures on the customer’s side of the point of supply to prevent water which has been drawn from the Council’s water supply from returning to that supply.

15.2 For the purposes of clause 15.1, “all necessary measures” means to take the required steps to comply with the Waimakariri District Council’s Backflow Prevention Policy includes:

- backflow prevention either by:
  - (i) providing an adequate air-gap separation, or
  - (ii) the use of an approved backflow prevention device;
- the exclusion of any direct cross-connection between the Council’s potable water supply, and:
  - (i) any other water supply (potable or non-potable)
  - (ii) any other water source
  - (iii) any storage tank
  - (iv) any other pipe, fixture or equipment containing chemicals, liquids, gases, or other non-potable substances.

Notes:

1. A building consent is required to install any backflow prevention device to meet the requirements of Section 15.
2. Fire protection systems that include appropriate backflow prevention measures would generally not require additional backflow prevention, except in cases where the system is supplied by a non-potable source or a storage tank or fire pump that operates at a pressure in excess of the Council’s normal minimum operating pressure.

15.3 Notwithstanding the previous clauses the Council may fit a backflow prevention device on the Council’s side of the point of supply where the customer cannot demonstrate that the risk of backflow has been managed or where the Council deems it necessary to protect the network. The Council may charge the customer for the installation of a backflow prevention device.

15.4 The Council may undertake annual testing on point of supply backflow prevention devices. The owner of the property at which the backflow prevention device is
16. **Fire Connections**

16.1 A customer whom designs any fire sprinkler system on their premises shall prevent water being drawn from the system for any purpose other than fire fighting and shall construct, install and maintain that system in good order, and for its intended purpose.

16.2 The customer shall ascertain and monitor whether the fire protection supply available is adequate for the intended purpose. When designing a fire protection system, the customer shall give due consideration to Section 9 of this Bylaw and the seasonal and daily pressure fluctuations in the water supply network.

16.3 No person shall install a new connection for fire protection unless authorised in writing by the Council to do so. Any such connection must be installed by Council’s contractors at the applicant’s expense and shall be subject to any terms and conditions specified by the Council. All fire connections shall have a Council approved detector check valve fitted at the owners expense.

16.4 The Council shall be under no obligation to provide a fire protection supply at any particular flow or pressure.

16.5 Where the supply of water to any premises is metered the Council may allow the supply of water for the purposes of fire fighting to be made in a manner which bypasses the meter, provided that:

(a) The drawing of water is possible only in connection with the sounding of an automatic fire alarm or the automatic notification of the fire brigade; or

(b) A Council approved detector check valve has been installed as part of the fire connection.

16.6 Any unmetered connection provided to supply water to a fire protection system must not be used for any purpose other than fire fighting and testing the fire protection system.

16.7 Where a fire connection has been installed in a manner or at a location whereby it is possible that water will be drawn from it for purposes other than fire fighting, the Council may install a detector check valve to ensure compliance with clause 16.6.

16.8 Fire hose reels on any premises shall not be connected to the fire connection.

16.9 Where the supply of water to any premises is metered, the customer shall connect any fire hose reels on those premises to the metered supply and not to a dedicated fire protection connection. The water supply to fire hose reels shall comply with the requirements of NZS 4503:2005 (Hand Operating Fire Fighting Equipment).

16.10 Customers intending to test fire protection systems in a manner that requires a draw-off of water, shall obtain the approval of the Council beforehand.

17. **Water Metering and Charging**

17.1 The Council may fit a water meter to any connection at any time for the purposes of determining water consumption.
17.2 If the Council resolves to introduce volumetric water charges then the Council may fit a water meter to the connection of any extraordinary user and may charge for water usage on a volumetric basis in accordance with any charges specified in the Council’s fees and charges schedule for such water usage.

17.3 Meters shall be located in a position where they are readily accessible for reading and maintenance, and if practicable immediately on the customer side of the point of supply.

17.4 The Council may recover all unpaid water charges from any premises as prescribed in the Local Government (Rating) Act 2002, sections 57 to 82.

17.5 Where it is not practical to install the water meter at the point of supply, the customer shall:

(a) Provide an approved site within the premises for the water meter;
(b) Take sufficient precaution to protect the water meter from damage at all times;
(c) Ensure the water meter is readily accessible for reading;
(d) Ensure that no other devices are installed in the water meter box.

17.6 Accuracy

17.6.1 Any meter installed shall be accurate to OIML R49 for the purposes of volumetric charging.

17.6.2 The Council may test meters as and when required or as prescribed in OIML R49 (International Organisation of Metrology R49). The maximum permissible error for the upper flow rate zone (Q2 < Q < Q4) is ± 2%, for temperatures from 0.3 °C to 30 °C and the maximum permissible error for the lower flow rate zone (Q1 < Q < Q2) is ± 5%. Note- where Q is the flow rate:
Q1 is the minimum flow rate;
Q2 is the transitional flow rate;
Q3 is the permanent flow rate; and
Q4 is the overload flow rate as defined in OIML R49-1.

17.6.3 Any customer who disputes the accuracy of a water meter would first be encouraged to carry out a self assessment. The customer may then apply to the Council for the meter to be tested, provided that the testing is not requested within three months of the last test.

17.6.4 To conduct a test, the Council shall install a temporary water meter and remove the customer’s meter to have an independent test carried out.

17.6.5 A copy of independent certification of the test result shall be made available to the customer on request.

17.6.6 If any test shows non-compliance with clause 17.6.2 above, the customer shall not be charged for the test.

17.6.7 If any test shows compliance with clause 17.6.2, the customer may be required to pay all reasonable costs associated with the Council’s testing of the water meter.

17.7 Adjustment
17.7.1 If any meter, after being tested, is found to register a greater or lesser consumption than the quantity of water actually passed through such a meter, the Council at its discretion may make an adjustment in accordance with the results shown by such tests, backdated for a period at the discretion of the Council but not exceeding 12 months, and the customer may be required to pay a greater or lesser amount according to the adjustment.

17.7.2 Where a meter is under-reading by more than 20% or has stopped, the Council reserves the right to charge for the amount of water assessed as having been used over the past meter reading period, taking into account any seasonal variations in demand.

17.7.3 Where a meter is over-reading, the Council will make appropriate adjustments to the customer’s invoice(s), based on a period of similar use and backdated for a period at the discretion of the Council but not exceeding 12 months.

17.8 Estimating consumption:

17.8.1 Where a meter is damaged, ceases to register, has been removed, or where the seal or dial of a meter is broken, or the meter has otherwise been interfered with, the Council may estimate the consumption for the period since the previous reading of the water meter (based on the average of the previous four meter readings in respect of the premises) and the customer may be required to pay according to such an estimate.

17.8.2 Where by reason of a large variation of consumption due to seasonal or other causes, the average of the previous four meter readings would be an unreasonable estimate of the consumption, or where there have not been 4 previous meter readings in respect of those premises, the Council may take into consideration other evidence for the purpose of arriving at a reasonable estimate, and the customer may be required to pay according to such an estimate.

17.8.3 If water metering indicates a significant increase in consumption to a premises, which is established as being caused by a previously unknown leak, the Council may either estimate consumption as provided in clauses 17.8.1 and 17.8.2, providing that the customer repairs the leak with due diligence, or the customer shall be liable for the cost of water which passes through the water meter regardless of whether this is used or is the result of the leakage.

17.9 Incorrect accounts:

17.9.1 Where a situation occurs, other than as provided for in the previous clauses of this Bylaw, where the recorded consumption does not accurately represent the actual consumption for a premise, the account shall be adjusted using the best information available to the Council. Such situations include, but are not limited to, misreading of the meter, errors in data processing, meters assigned to the wrong account, and unauthorised supplies.

17.9.2 Where an adjustment is required, in favour of the Council or the customer, this shall not be backdated more than 12 months from the date the error was detected.

18. Restricted Connections
18.1 Any property connecting to a restricted water supply or any Rural or Residential 4 Zone property connecting to an on demand supply after the adoption of this Bylaw, shall be provided with a restricted connection.

18.2 All restricted connections must receive a minimum of two units of water, where 1 unit is equivalent to a flow of 1,000 litres per day.

18.3 The Council may install a restrictor on any property with an on-demand connection to a restricted scheme or any Rural or Residential 4 Zone property connected to an on-demand scheme.

18.4 Where the Council requires the permanent installation of a restrictor on a previously on-demand connection, the Council shall meet all reasonable costs of providing the restricted connection including the provision of the on-site storage tank, the ownership and maintenance of which shall become the customer’s responsibility.

18.5 The owner of any premises at which a restricted connection is installed after the adoption of this Bylaw shall provide for a minimum on site storage facility that is equivalent to twice their daily water allocation.

18.6 The flow restrictors must be accurate to within ± 10% of their rated capacity.

18.7 An air gap separation shall be provided on the connection to the storage tank as defined by and in accordance with Clause G12 of the New Zealand Building Code.

18.8 Procedure for testing a restrictor

18.8.1 Any customer who disputes the accuracy of a restrictor may apply to the Council for it to be tested provided that the testing is not requested within three months of the last test.

18.8.2 An initial test shall be carried out by Council staff at the point of supply to determine the accuracy of the restrictor by measuring the quantity that flows through the restrictor in a period of not less than 1 minute at the operating pressure. Results will be provided to the customer on request.

18.8.3 If a customer is still not satisfied with the accuracy of the restrictor, Council staff shall install a temporary restrictor and remove the customer’s restrictor to have an independent test carried out.

18.8.4 A copy of independent certification of the test result shall be made available to the customer on request.

18.8.5 If any test shows non-compliance with clause 18.6 above, the customer shall not be charged for the test.

18.8.6 If any test shows compliance with clause 18.6, the customer may be required to pay all reasonable costs associated with the Council’s testing of the restrictor.

19. Demand Management

19.1 The Council may issue water restrictions on use of potable water from any Council water supply during periods of high demand.
19.2 During an emergency, the Council may restrict or prohibit the use of water for any specified purpose, for any specified period, and for any or all of its customers.

19.3 No person shall contravene any restrictions issued by the Council to manage high seasonal or other demands or constraints on the system, which are publicly notified.

19.4 When such restrictions apply, the Council shall take all practicable steps to ensure that an adequate supply for domestic purposes is provided to each point of supply.

19.5 The customer shall not intentionally allow water to run to waste from any pipe, tap, hose, sprinkler, or other device or fitting, nor allow the condition of the plumbing within the property to deteriorate to the point where leakage or waste occurs.

19.6 The Council provides water for consumptive use, not as an energy source. A customer shall not use water or water pressure directly from the supply for driving lifts, machinery, generators, condensers or any other similar devices; unless specifically authorised by the Council in writing.

19.7 The customer must not use water for a single pass cooling system, for air conditioning, or to dilute trade waste prior to disposal, unless specifically approved by the Council.

19.8 An industrial plant shall not use water from the public water supply for cooling purposes, unless specifically approved by the Council.

20. **Plumbing System**

20.1 The customer shall not install or operate any devices that are likely to cause pressure surges or fluctuations that could be transmitted to the water supply network and compromise the ability of the Council to maintain its stated levels of service, unless otherwise approved by the Council.

20.2 In accordance with the Building Regulations 1992 the plumbing system shall be compatible with the water supply.

21. **Delegations & Approvals**

21.1 In this Bylaw where any written permission or approval of the Council is required, that approval may be given by the Chief Executive, and the Chief Executive may delegate all or part of that function to any other officer of the Council.

21.2 The form of any application for and grant of any permission or approval required under this Bylaw will be determined by the Council.

21.3 The Council may attach any terms or conditions as it thinks fit to any permission or approval granted under provisions of this Bylaw.
22. **Offences and Breaches**

22.1 Any person who carries out any of the following activities will be considered to have committed an offence and breached this Bylaw:

(a) Does, permits, or allows anything to be done, which is contrary to this Bylaw or any part of it; or
(b) Fails to do or perform any act, or thing, that he or she is required to do by this Bylaw, within the time and in the manner required by this Bylaw or any part of it; or
(c) Commits any other breaches of the terms and conditions of this Bylaw; or
(d) Does anything which this Bylaw prohibits; or
(e) Fails to comply with any notice given to him or her under this Bylaw or any part of it or any condition that is part of any notice granted by the Council; or
(f) Obstructs or hinders any Council officer or other Council appointed person in performing any duty or in exercising any power under this Bylaw; or
(g) Tampers with their connection or any restrictor, or draws water from a connection or restrictor that has been tampered with.

23. **Notices**

23.1 The Council may give notice to any person in breach of this Bylaw to carry out any remedial action in order to comply with the Bylaw and every such notice shall state the time within which the remedial action is to be carried out, and may be extended at the Council's discretion.

23.2 If after the time specified in the notice in Clause 23.1, the customer persists in the breach, the Council reserves the right to reduce the flow rate of water to the customer without notice.

23.3 In such an event, the full service of the supply shall be re-established only after payment of the appropriate fee and remedy of the breach to the satisfaction of the Council.

23.4 In addition, if the breach is such that the Council is required to disconnect the supply for health and safety considerations, such disconnection should/may be carried out forthwith by Council with no notice.

24. **Penalties**

24.1 Subject to anything to the contrary, every person who commits an offence against this Bylaw shall be subject to the penalties set out in Section 242(4) of the Local Government Act 2002.

24.2 Under Section 163 of the Local Government Act 2002 the Council or an authorised agent appointed by it, may remove or alter any work or thing that is or has been constructed in breach of this Bylaw.

24.3 The Council may recover the costs of removing or altering the work or thing that is in breach of this Bylaw from the person who committed the breach. This does not relieve that person of liability for the breach.
24.4 Under Section 162 of the Local Government Act 2002 the Council may apply to the District Court for the grant of an injunction restraining a person from committing a breach of this Bylaw.

24.5 The Council may seize and impound property not on private land that is materially involved in the commission of an offence, under and in accordance with Section 164 of the Local Government Act 2002.

24.6 The Council may seize and impound property from private land that is involved in the commission of an offence, under and in accordance with Section 165 of the Local Government Act 2002.

24.7 The Council will deal with any property seized and impounded in accordance with Sections 167 and 168 of the Local Government Act 2002.

25. **Fees**

25.1 The Council may in accordance with Section 150 of the Local Government Act 2002 prescribe fees or charges payable for any certificate, approval, permit or consent form or inspection made by the Council under this Bylaw.

25.2 The customer may be liable to pay for the use of water on a volumetric basis, and the Council may install a water meter on any premises for this purpose.

25.3 The customer shall be liable to pay for the water and related services in accordance with the Council’s fees and charges prevailing at the time. A Development Contribution levied under the Local Government Act 2002 may also be payable for new connections as specified in the Council’s Development Contributions Policy. A Financial Contribution charge may be payable as determined in accordance with the Resource Management Act 1991.

26. **Transfer of Rights and Responsibilities**

26.1 The customer shall not transfer to any other party the rights and responsibilities set out in this Bylaw.

26.2 A supply pipe shall serve only one premises, and shall not extend by hose or any other pipe beyond that premises, unless authorised in writing by the Council.

26.3 In particular and not in limitation of the above, any water which the customer draws from the Council water supply shall not be provided to any other party without the approval of the Council.

27. **Change of Ownership**

27.1 In the event of a premises changing ownership the Council shall record the new owner as being the customer at that premises.

27.2 Where a premises is metered the outgoing customer shall give the Council five working days notice to arrange a final meter reading.

28. **Disconnection at the Customer’s Request**

28.1 The customer shall give 20 working days notice in writing to the Council of the request for disconnection of supply. Disconnection, if approved, shall be at the customer’s
expense and the Council may require the customer to obtain a resource consent for the disconnection.

28.2 In accordance with the Local Government (Rating) Act 2002, any disconnection from the Council water supply (whether initiated by customer or the Council) shall not necessarily release the customer from liability for incurred or ongoing water charges.

29. **Dispensing Powers**

29.1 The Council may waive full compliance with any provision of this Bylaw in a case where the Council is of the opinion that full compliance would needlessly cause harm, loss or inconvenience to any person or business without any corresponding benefit to the community. The Council may in its discretion impose conditions of any such waiver.

30. **Serving of Notices and Documents**

30.1 Except as otherwise expressly provided for in any Act, where any notice, order or other document is required to be served on any person for the purposes of this Bylaw, the Council may serve notice by:

(a) Delivering it personally
(b) Sending it by messenger
(c) Sending it by registered post to the person’s last known place of residence or business.

30.2 If that person is absent from New Zealand, the notice may be sent to his or her agent instead of to that person.

30.3 If that person has no known name or address or is absent from New Zealand and has no known agent, and the notice relates to any land or building, the notice may be served on the occupier, or if there is no occupier the notice may be put on some conspicuous part of the land or building without the notice naming the owner or occupier.

30.4 If that person has died, the notice may be served on his or her personal or legal representative or executor.

30.5 Where a notice is sent by registered post it will be sent to arrive in the normal course no later than when the notice is required to be served and will be deemed to have been served at the time when the registered letter would be delivered in the ordinary course of post.

31. **Review of Bylaw**

31.1 The Bylaw shall be reviewed by March 2017 November 2028.

31.2 This Bylaw can be reviewed at any other time before that date at the discretion of the Council.

32. **Commencement Date**

32.1 This Bylaw comes into force on 63 April November 2012, being the day at which the Waimakariri District Council in its meeting confirmed the making of this Bylaw by public resolution.
1. **SUMMARY**

1.1. This report is to present the Utilities and Roading Committee with the results of the annual compliance report for the Council’s drinking-water supplies with the Drinking-water Standards for New Zealand 2005 (Revised 2008) (DWSNZ) and the Health Act 1956 for the 2017/18 monitoring period. This report is published by the Canterbury District Health Board (CDHB).

1.2. Compliance of the Council’s supplies is measured at the plant and within the distribution zones (the reticulation). Council’s compliance with the Health Act is also reported on.

1.3. The key results from the report are:

1.3.1. Council achieved bacterial compliance on all its plants and within all distribution zones.

1.3.2. Council achieved protozoal compliance on 8 of its 15 supplies.

1.3.3. Council achieved chemical compliance with the DWSNZ on all supplies. Nitrate is required to be monitored monthly for the Poyntzs Road supply in order to maintain compliance in this area.

1.3.4. Council was assessed as meeting its obligations under the Health Act for all its supplies.

1.4. Plans are in place for the following schemes to gain protozoal compliance during the current 2018/19 monitoring period:

i. **Fernside:** This scheme has successfully joined with Mandeville in 2017/18 and compliance will be achieved for 2018/19 subject to operational issues at Mandeville being addressed (refer below).

ii. **Mandeville:** The UV treatment system achieved compliance for 99.9% of the monitoring period, however there were 12 instances where turbidity spikes meant full compliance was not achieved. Operational procedures are being improved to address this.
iii. **Oxford Rural No.1:** The source upgrade project is due for completion late November 2018 which will mean compliance will be achieved part way through the 2018/19 monitoring period.

iv. **Oxford Rural No.2:** This scheme was joined with Oxford Urban in June 2018 and compliance is expected for the full 2018/19 monitoring period.

v. **Waikuku Beach:** The UV treatment system is operating at Kings Avenue since January 2018, however 12 months of protozoal monitoring is required before compliance can be achieved.

1.5. Following the upgrades above, the Poyntzs Road and Garrymere schemes will be the last remaining schemes for upgrades with construction budgeted for 2019/20 in order for them to become compliant.

1.6. Consultation is required before construction of the Poyntzs Road and Garrymere schemes commences. This is expected to gain a high degree of scrutiny from the communities due primarily to the significant rating impacts projected. In order for the projects to remain on track and not be delayed by the consultation, it is required that detailed design be undertaken in parallel with consultation rather than subsequent to this.

**Attachments:**

i. Annual Compliance Report (180919108613).

ii. Action Table (submitted by Council staff following report) (180919108670).

2. **RECOMMENDATION**

**THAT** the Utilities and Roading Committee:

(a) **Receives** report No. 181002113999.

(b) **Notes** that all 15 of the Council’s drinking-water supplies met the monitoring and management obligations of the Health Act for the 2017/18 monitoring period.

(c) **Notes** that all 15 of the Council’s drinking-water supplies achieved bacterial compliance with the Drinking-water Standards for New Zealand for the 2017/18 monitoring period.

(d) **Notes** that 8 of the Council’s 15 water supplies achieved full protozoal compliance with the Drinking-water Standards for New Zealand (DWSNZ) and that of those schemes that didn’t achieve compliance in the 2017/18 period 5 are expected to gain compliance throughout the 2018/19 period.

(e) **Notes** that the Garrymere and Poyntzs Road water supplies require source upgrade projects to be completed in order to gain compliance, both of which are budgeted for completion in the 2019/20 financial year.

(f) **Notes** that further consultation is required on both the Poyntzs Road and Garrymere schemes before the projects can be completed and that in order for the projects to be completed on time, detailed design and other enabling works will need to commence in parallel with consultation rather than subsequent to consultation being completed.

(g) **Approves** staff to commence with the detailed design and associated enabling works on both the Garrymere and Poyntzs Road source upgrade projects within the current financial year to ensure sufficient time for the tendering and construction of the works within the 2019/20 financial year.

(h) **Circulates** this report to Council and all Community Boards for their information.
3. **BACKGROUND**

3.1 The Health Act (1956) requires that Council take all practicable steps to comply with the Drinking-water Standards for New Zealand 2005 (Revised 2008) (DWSNZ).

3.2 The key ways in which compliance is measured and reported on are summarised below:

3.1.1. **Bacterial Compliance with the DWSNZ:** Bacterial compliance is covered under Section 4 of the DWSNZ. Compliance is achieved through E. coli monitoring which is reported both at each treatment plant, and within each distribution zone (reticulation network).

3.1.2. **Protozoal Compliance with the DWSNZ:** Protozoal compliance is covered under Section 5 of the DWSNZ. Protozoal compliance is assessed at each treatment plant, and can be achieved either by treatment for protozoa with an approved treatment system operated within its required parameters, or by gaining secure groundwater classification in which requirements are met to negate the need for protozoal treatment.

3.1.3. **Chemical Compliance with the DWSNZ:** This is the assessment as to whether the chemical properties of the source water complies with the Maximum Acceptable Values (MAVs) in the DWSNZ. In general chemical tests are required to be undertaken every 5 years. If a result from one of these tests is greater than 50% of the MAV, that parameter is assigned as a Priority 2 (P2) determinand and more frequent sampling required. In the case of the Council’s supplies the only P2 determinand is nitrate on the Poyntzs Road scheme. In addition, Council is required to issue notices about the potential for plumbosolvent water twice per year for all its supplies.

3.1.4. **Compliance with the Health Act:** Council has duties under the Health Act which are assessed as part of the annual compliance report. The key duties noted in the 2017/18 compliance report are Council’s duties to:

- Take all practicable steps to ensure an adequate supply of drinking water (Section 69S).
- Take reasonable steps to contribute to protection of source drinking water (Section 69U).
- To keep records and make them available (Section 69ZD).
- To investigate complaints (Section 69ZE).

3.1.5. In terms of Section 69S and Council’s duty to take all practicable steps to comply with the DWSNZ, this came into effect in a staged manner depending on the size of the supply, as required under the Health (Drinking-water) Amendment Act 2007. These timeframes are:

- For large supplies (Kaiapoi and Rangiora) it became mandatory to take all practicable steps to comply from 1 July 2012.
- For minor supplies (Mandeville, Oxford Rural No.1, Oxford Rural No.2, Oxford Urban, Pegasus, West Eyreton, Woodend and Waikuku) it became mandatory to take all practicable steps to comply from 1 July 2014.
- For small supplies (Cust, Garrymere, Ohoka, Poyntzs Road) it became mandatory to take all practicable steps to comply from 1 July 2015.

3.1.6. As is implicit from above, from 1 July 2015 it has been mandatory and a legal requirement that Council take all practicable steps for all of its supplies to comply with the DWSNZ. Given it is more than 3 years since this time, there is increasing pressure and scrutiny being applied to those schemes that do not comply with the current standards.
4. ISSUES AND OPTIONS

4.1. The key results of the 2017/18 compliance report are summarised below:

Table 1: Summary of Results

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Plant (bacterial)</th>
<th>Plant (Protozoal)</th>
<th>Distribution Zones (bacterial)</th>
<th>Chemical Health Act</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cust</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Secure groundwater</td>
</tr>
<tr>
<td>Femside</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Joined with Mandeville part way through compliance period.</td>
</tr>
<tr>
<td>Garrymere</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Upgrade required for protozoal compliance</td>
</tr>
<tr>
<td>Kaiapoi</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Secure groundwater</td>
</tr>
<tr>
<td>Mandeville</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>UV compliance 99.9% of time, but operational issues meant non-compliance at times.</td>
</tr>
<tr>
<td>Ohoka</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Secure groundwater</td>
</tr>
<tr>
<td>Oxford Rural No.1</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Source upgrade due for completion November 2018 to gain compliance</td>
</tr>
<tr>
<td>Oxford Rural No.2</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Source upgrade completed June 2018 to gain compliance for following year.</td>
</tr>
<tr>
<td>Oxford Urban</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Secure groundwater</td>
</tr>
<tr>
<td>Pegasus</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Secure groundwater</td>
</tr>
<tr>
<td>Poyntzs Road</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Upgrade required for protozoal compliance</td>
</tr>
<tr>
<td>Rangiora</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Secure groundwater</td>
</tr>
<tr>
<td>Waikuku Beach</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>UV project completed by protozoal monitoring required for 12 months to gain full compliance.</td>
</tr>
<tr>
<td>West Eyreton</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Secure groundwater</td>
</tr>
<tr>
<td>Woodend</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Secure groundwater</td>
</tr>
<tr>
<td><strong>Summary</strong></td>
<td><strong>15/15</strong></td>
<td><strong>8/15</strong></td>
<td><strong>15/15</strong></td>
<td><strong>15/15</strong></td>
<td><strong>15/15</strong></td>
</tr>
</tbody>
</table>

*While the Summerhill scheme is considered as a distinct scheme from a rating perspective, from a compliance perspective it is part of the West Eyreton scheme.

* The table above demonstrates compliance for primary plants. Some other backup plants are reported on in the full compliance report, but not included in the table above for simplicity.

4.2. The following key conclusions can be drawn from above:

4.2.1. Council achieved bacterial compliance on all its plants and within all distribution zones. This was achieved through E.coli sampling at each plant and distribution zone at the frequency required under the DWSNZ. There are requirements around number of samples per quarter, maximum days between samples, minimum days of the week used which vary from scheme to scheme. There were some isolated instances where samples were not taken strictly in accordance with the programme produced and leniency from the Drinking-water Assessors (DWAs) was required in order for compliance to be achieved. This was primarily due to significant staff shortages at the Council’s Water Unit for a period during early
2018. The Water Unit has since hired additional staff and put further systems in place to ensure this does not repeat in the future.

4.2.2. Council achieved chemical compliance with the DWNSZ on all supplies. Nitrate is required to be monitored monthly for the Poyntzs Road supply in order to maintain compliance in this area. Nitrate levels on the Poyntzs Road scheme have consistently exceeded 80% of the Maximum Acceptable Value (MAV) and there is a risk that over time these levels may continue to increase, meaning that compliance is not assured for the future on this scheme.

4.2.3. Council achieved protozoal compliance on 8 of its 15 supplies. The following schemes that did not achieve compliance in the 2017/18 compliance period are expected to achieve it within the 2018/19 period.

i. **Fernside**: This scheme has successfully joined with Mandeville in 2017/18 and compliance will be achieved for 2018/19 subject to operational issues at Mandeville being addressed (refer below). Now that Fernside has been physically connected to Mandeville for the next monitoring period Fernside will be reported on as an extension to the Mandeville scheme, rather than as a distinct scheme.

ii. **Mandeville**: The UV treatment system achieved compliance for 99.9% of the monitoring period, however there were 12 instances where turbidity spikes of greater than 2 minutes meant full compliance was not achieved. From a safety point of view, the UV treatment system has largely been successful operating within its required parameters for the vast majority of the compliance period ensuring a significantly higher level of safety for the scheme. From a compliance point of view, there is a very low threshold for the UV unit operating outside of its required parameters and operational improvements are required to ensure that any turbid water is flushed to waste for the small periods of time when this occurs.

iii. **Oxford Rural No.1**: The source upgrade project is due for completion late November 2018 which will mean compliance will be achieved part way through the 2018/19 monitoring period. This will allow the current Waimakariri River intake to be relegated to a backup source, and the new deep well to become the primary source for the scheme.

iv. **Oxford Rural No.2**: This scheme was joined with Oxford Urban in June 2018 and compliance is expected for the full 2018/19 monitoring period.

v. **Waikuku Beach**: The UV treatment system is operating at Kings Avenue, however has not yet been able to be signed off as compliant. In order for the treatment system to be compliant, either the requirements for a secure borehead must be met, or monitoring of giardia and cryptosporidium must be undertaken for a 12 month period. It was initially intended that the secure borehead requirements could be achieved. Part of these requirements is for livestock to be excluded from within 5m of the bore head. The primary well at Kings Ave is within the road reserve, however it is within 3m of private property. The adjacent landowners have not agreed to a proposal to exclude stock from the 2m strip of land adjacent to the borehead, so compliance with this parameters has not been achieved. Therefore, the alternative pathway to compliance of 12 months of protozoal monitoring has commenced, with all samples to date absent of any protozoa (specifically cryptosporidium or giardia).
4.2.4. When the above works are complete, there will be two remaining non-compliant supplies; Poyntzs Road and Garrymere. Construction of upgrades on these supplies is budgeted for 2019/20 in order for them to become compliant.

4.2.5. Consultation is required before construction of the Poyntzs Road and Garrymere scheme upgrades commences. This is expected to gain a high degree of scrutiny from the communities due primarily to the significant rating impacts projected. In order for the projects to remain on track and not be delayed by the consultation, it is required that detailed design be undertaken in parallel with consultation rather than subsequent to this.

4.2.6. As well as detailed design, other enabling works required to be undertaken in parallel with the upcoming consultation. This will include:

- Testing of land at the proposed booster pump station site required to pump water from the West Eyreton scheme to the Poyntzs Road scheme. Council owns land at 520 Downs Road which would provide an ideal location for a booster pump station to join the Poyntzs Road scheme with the West Eyreton scheme. However, the site is a historic landfill and soil testing is required to confirm it as a suitable location for the proposed pump station. If the results of the testing are favourable, works will be able to be planned on a section of the site. If the results are not favourable, an alternative site will need to be considered either by purchasing a section of private property or planning a site within the road reserve.

- Securing an easement within land at 663 Poyntzs Road for a water main. There is an existing water main part way through this property. As part of the upgrade works to join with West Eyreton it is proposed that this section of main be extended through private property and as part of this it is proposed that this pipe be protected by an easement. It is proposed that this get underway in the coming months to avoid the risk of delays in the future.

- Confirming right to extend water headworks building at 70 Garrymere Road. The existing Garrymere water headworks building is located on private property at 70 Garrymere Road, and is protected by an easement. It is proposed that the existing building be extended to facilitate treatment upgrades, which may trigger the need for a building consent. If a building consent is required, this would trigger then need for landowner approval, even though Council has an easement. Therefore, discussions with the Council’s Building Unit and the existing landowners are proposed to commence to ensure that there are no complications when building consent is applied for.

4.2.7. Council was assessed as meeting its obligations under the Health Act for all its supplies. As noted in the background section Council has a legal obligation under the Health Act to take all practicable steps to meet the DWSNZ.

4.2.8. When the compliance report was provided to Council, Council was required to report back to the assessors for each scheme where full compliance was not achieved to note the reasons for the non-compliance, and to demonstrate what steps are in place to achieve compliance and by what time. As part of this response, Council staff reported on the budgets that are in place within the 2018/19 and 2019/20 financial years to complete the projects for the Garrymere and Poyntzs Road schemes. It is therefore imperative that in order for Council to meet this commitment and to continue to meet its obligations under the Health Act that Council ensure that all steps are taken to complete these projects.

4.2.9. It is acknowledged that funding is an issue for both the Garrymere and Poyntzs Road projects and that this may present a barrier during the next stages of the consultation process. It has been acknowledged by Central Government that
targeted rates on small supplies can create funding barriers, but that these are considered to be artificially created barriers from within Councils. In April 2018 in a government paper titled “Review of three waters infrastructure: key findings and next steps” it was stated “just under half of all local authorities prefer to apply targeted rates on an individual water infrastructure scheme basis, rather than using other funding options (such as general rates or targeted rates on a district-wide basis). Using this method tends to result in higher charges for small schemes, creating affordability issues”.

4.2.10. While the above statement was made in regard to funding challenges for water renewals, it can be concluded generally that affordability on small supplies cannot be presented as a reason for an upgrade or project not being completed, if the Council as a whole could afford the project. The challenge that Council and staff face is to continue to progress these projects, while carrying out the required consultation in parallel. The risk is that the affected communities may not accept the cost for the projects even after significant consultation, meanwhile Council will be legally obliged to complete the projects regardless. This is an issue that will need to be monitored over the coming months.

4.3. The Management Team have reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Groups and Organisations

5.2. No groups or organisations have been consulted regarding the annual compliance report. This report does cover individual scheme upgrade projects. Consultation is carried out with individual community boards and advisory groups for specific projects as required.

5.3. Wider Community

5.4. 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. IMPLICATIONS AND RISKS

6.1. Financial Implications

6.2. There are capital budgets in place for the remaining work on the source upgrade projects for Oxford Rural No.1 and Waikuku Beach in 2018/19 and Poyntz Road and Garrymere in 2018/19 and 2019/20. These were included and consulted on as part of the 2018-28 Long Term Plan process.

6.3. Community Implications

6.4. Compliance with the DWSNZ is required in order to ensure that all residents receiving water from a Council owned supply receive water that is demonstrably safe.

6.5. Risk Management

6.6. There are inherent risks with public drinking water supplies. If a supply does not comply with the DWSNZ, it can be inferred that the level of risk is at an unacceptable level for that supply and that further steps must be taken in order to address the risk and achieve compliance.
6.7. **Health and Safety**

6.8. 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. **Policy**

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

7.3. **Legislation**

7.4. The Health (Drinking-water) Amendment Act is relevant in this matter.

7.5. **Community Outcomes**

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

There is a safe environment for all:

- Harm to people from natural and manmade hazards is minimised

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.

7.7. **Delegations**

7.8. The Council has the delegated authority to approve this report.
Report on Compliance with the Drinking-water Standards for New Zealand 2005 (revised 2008) and duties under Health Act 1956

For Period: 1 July 2017 - 30 June 2018

Drinking Water Supplies:
Cust (CUS001)
Fernside (FER002)
Garrymere (GAR001)
Kaiapoi (KAI003)
Mandeville (MAN009)
Ohoka (OHO001)
Oxford Rural 1 (OXF101)
Oxford Rural 2 (OXF102)
Oxford Urban (OXF103)
Pegasus (PEG001)
Poyntz Road (POY001)
Rangiora (RAN001)
Waikuku (WAI011)
West Eyreton (WES004)
Woodend (WO0002)

Water Supplier:
Waimakariri District Council

Drinking Water Unit:
South Island Drinking Water Assessment Unit
PO Box 1475, Christchurch 8140

Report Identifier
WaimakaririDC_DWSNZ2005/08Compliance_190918_v1
Terminology/Abbreviations

The Act – Part 2A, Health Act 1956
CPH – Community and Public Health
CRA – Catchment Risk Assessment
DWA – Drinking Water Assessor
DWSNZ - Drinking Water Standards New Zealand 2005 (Revised 2008)
DWO – Drinking Water Online
GW - Ground water
MAV - Maximum acceptable value
MoH – Ministry of Health
P2 - Priority 2 determinand
UV - Ultra-violet
UVT – Ultra-violet transmittance
WDC - Waimakariri District Council
WSP - Water Safety Plan

Bacterial compliance is under Section 4 of the DWSNZ
Protozoal compliance is under Section 5 of the DWSNZ
Cyanotoxin compliance is under Section 7 of the DWSNZ
Chemical compliance is under Section 8 of the DWSNZ
Radiological compliance is under Section 9 of the DWSNZ
Treatment Plants

Treatment Plant: Bacterial Compliance

Summary of *E.coli* Sampling Results

<table>
<thead>
<tr>
<th>Plant name</th>
<th>Number of samples required</th>
<th>Number of samples collected</th>
<th>Number of transgressions</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ayers St TP00207</td>
<td>Not operating</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Chinnerys Rd TP00211</td>
<td>4</td>
<td>7</td>
<td>0</td>
<td>Compliant</td>
</tr>
<tr>
<td>Coopers Creek TP00210</td>
<td>104</td>
<td>111</td>
<td>0</td>
<td>Compliant</td>
</tr>
<tr>
<td>Cust TP00741</td>
<td>12</td>
<td>52</td>
<td>0</td>
<td>Compliant</td>
</tr>
<tr>
<td>Darnley Sq TP00209</td>
<td>4</td>
<td>9</td>
<td>0</td>
<td>Compliant</td>
</tr>
<tr>
<td>Domain Rd TP02973</td>
<td>104</td>
<td>12</td>
<td>0</td>
<td>Compliant</td>
</tr>
<tr>
<td>Dudley Park TP02444</td>
<td>Not operating</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Fernside TP00596</td>
<td>104</td>
<td>40</td>
<td>0</td>
<td>Compliant</td>
</tr>
<tr>
<td>Gammans Creek TP02446</td>
<td>Not operating</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Garrymere TP00593</td>
<td>52</td>
<td>52</td>
<td>0</td>
<td>Compliant</td>
</tr>
<tr>
<td>Kings Ave TP00214</td>
<td>104</td>
<td>99</td>
<td>0</td>
<td>Compliant</td>
</tr>
<tr>
<td>Mandeville 1 TP002442</td>
<td>104</td>
<td>102</td>
<td>0</td>
<td>Compliant</td>
</tr>
<tr>
<td>Mandeville 2 TP00744</td>
<td>104</td>
<td>1</td>
<td>0</td>
<td>Compliant</td>
</tr>
<tr>
<td>Ohoka TP00594</td>
<td>12</td>
<td>12</td>
<td>0</td>
<td>Compliant</td>
</tr>
<tr>
<td>Pegasus TP02780</td>
<td>4</td>
<td>35</td>
<td>0</td>
<td>Compliant</td>
</tr>
<tr>
<td>Peraki St TP02443</td>
<td>12</td>
<td>34</td>
<td>0</td>
<td>Compliant</td>
</tr>
<tr>
<td>Poyntz Rd TP00884</td>
<td>52</td>
<td>55</td>
<td>0</td>
<td>Compliant</td>
</tr>
<tr>
<td>Rinaldi Ave TP002445</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>Compliant</td>
</tr>
<tr>
<td>Rockford Rd TP00806</td>
<td>104</td>
<td>127</td>
<td>0</td>
<td>Compliant</td>
</tr>
<tr>
<td>South Belt TP03053</td>
<td>4</td>
<td>10</td>
<td>0</td>
<td>Compliant</td>
</tr>
<tr>
<td>Waikuku Campground TP02540</td>
<td>104</td>
<td>58</td>
<td>0</td>
<td>Compliant</td>
</tr>
<tr>
<td>West Eyreton TP00742</td>
<td>4</td>
<td>7</td>
<td>0</td>
<td>Compliant</td>
</tr>
</tbody>
</table>

Summary of Compliance with Sampling/Analytical/Remedial/Operational Requirements

Chinnerys Rd, Cust, Darnley Sq, Domain Rd, Ohoka, Peraki St, Pegasus, Rinaldi St, South Belt and West Eyreton were all assessed using Section 4.5 *Bore water security and compliance*. All other plants were assessed using Section 4.3 *Compliance criterion 1 for drinking-water leaving the treatment plant*.

**Ayers St (TP00207):** Not operating during compliance period, therefore not assessed.

**Cust (TP00741):** As there is no treatment applied at the plant, sampling was undertaken and recorded against the source. 52 samples were taken at the source (Springbank Bore 2 G01984).
Domain Road (TP02973): This plant has one bore with full GW security (Domain Rd 1 GO1893) and one bore with interim GW security (Domain Rd 2 GO2006). Both bores were sampled in accordance with Table 4.5 Minimum sampling frequency for E.coli in bore water.

Dudley Park (TP02444): Not operating during compliance period, therefore not assessed.

Fernside (TP00596): This plant has been offline since the Fernside supply merged with Mandeville in March 2018. Prior to the merger, sampling was in accordance with a smaller population band i.e. 13 per quarter.

Gammans Creek (TP02446): Not operating during compliance period, therefore not assessed.

Kings Ave (TP00214): Plant was offline for part of the year and sampling was appropriate whilst the plant was on with the exception of one occasion where a sample was missed due to unforeseen staff resourcing issues. Leniency has been applied.

Mandeville 1 (TP02442): Number of samples was not achieved due to unforeseen staff resourcing issues. Leniency has been applied.

Mandeville 2 (TP00744): This plant is back-up for the Mandeville supply. The plant was turned on for one day in July and one sample was taken on this day.

Ohoka (TP00594): This plant has had interim GW security since November 2016. Samples were taken twice per week for the first three months then monthly afterward in accordance with Table 4.5 Minimum sampling frequency for E.coli in bore water.

Pegasus (TP02780): Samples for this treatment plant were taken and recorded against the sources on DWO, rather than the plant.

Peraki St (TP02443): This plant is sourced from three secure bores; Ashley Pl, Peraki St and Porter Pl. Ashley Pl had a transgression during the previous compliance period and became provisionally secure again in January 2017. The other two bores were treated as fully secure. Sampling for Ashley Pl was increased in accordance with Table 4.5 of the DWSNZ and the plant was sampled in accordance with a fully secure plant. A total of 24 samples were taken from Ashley Pl during the compliance period in addition to the 10 samples recorded against the plant.

Rinaldi Ave (TP002445): Back-up supply for Kaiapoi. This plant was only operational from 05/12/2017 – 21/12/2017. During this period two samples were taken and recorded against the source on DWO, rather than the plant.

Waikuku Campground (TP02540): Back-up supply for Waikuku Kings Ave, although was turned on during summer. Appropriate compliance sampling was performed whilst the plant was on with the exception of two occasions where samples were not taken due to unforeseen staff resourcing issues. Leniency has been applied.
For all other supplies: Sampling compliance was achieved for maximum days between samples, and minimum days of the week used for sampling. A MoH recognised laboratory was used for the sample analyses and appropriate sampling methods and sites were used. All of the treatment plants that were in operation during the compliance period met all the requirements to comply with the DWSNZ.

**Treatment Plant: Protozoa Compliance**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Protozoal Risk Category</th>
<th>Log Credit Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ayers St TP00207</td>
<td>Not operating, non-secure GW</td>
<td>Not yet assigned</td>
</tr>
<tr>
<td>Chinnerys Rd TP00211</td>
<td>Secure GW</td>
<td>0</td>
</tr>
<tr>
<td>Coopers Creek TP00210</td>
<td>Surface water</td>
<td>Not yet assigned</td>
</tr>
<tr>
<td>Cust TP00741</td>
<td>Secure GW</td>
<td>0</td>
</tr>
<tr>
<td>Darnley Sq TP00209</td>
<td>Secure GW</td>
<td>0</td>
</tr>
<tr>
<td>Domain Rd TP02973</td>
<td>Secure GW</td>
<td>0</td>
</tr>
<tr>
<td>Dudley Park TP02444</td>
<td>Not operating, non-secure GW</td>
<td>Not yet assigned</td>
</tr>
<tr>
<td>Fernside TP00596</td>
<td>Non-secure GW</td>
<td>Not yet assigned</td>
</tr>
<tr>
<td>Gammans Creek TP02446</td>
<td>Not operating, surface water</td>
<td>Not yet assigned</td>
</tr>
<tr>
<td>Garrymere TP00593</td>
<td>Non-secure GW</td>
<td>Not yet assigned</td>
</tr>
<tr>
<td>Kings Ave TP00214</td>
<td>Non-secure GW</td>
<td>Not yet assigned</td>
</tr>
<tr>
<td>Mandeville 1 TP002442</td>
<td>Non-secure GW</td>
<td>2</td>
</tr>
<tr>
<td>Mandeville 2 TP00744</td>
<td>Non-secure GW</td>
<td>Not yet assigned</td>
</tr>
<tr>
<td>Ohoka TP00594</td>
<td>Interim GW</td>
<td>0</td>
</tr>
<tr>
<td>Pegasus TP02780</td>
<td>Secure GW</td>
<td>0</td>
</tr>
<tr>
<td>Peraki St TP02443</td>
<td>Secure GW</td>
<td>0</td>
</tr>
<tr>
<td>Poyntz Rd TP00884</td>
<td>Non-secure GW</td>
<td>Not yet assigned</td>
</tr>
<tr>
<td>Rinaldi Ave TP002445</td>
<td>Secure GW</td>
<td>0</td>
</tr>
<tr>
<td>Rockford Rd TP00806</td>
<td>Surface water</td>
<td>0</td>
</tr>
<tr>
<td>South Belt TP03053</td>
<td>Secure GW</td>
<td>0</td>
</tr>
<tr>
<td>Campground TP02540</td>
<td>Non-secure GW</td>
<td>Not yet assigned</td>
</tr>
<tr>
<td>West Eyreton TP00742</td>
<td>Secure GW</td>
<td>0</td>
</tr>
</tbody>
</table>

**Summary of Compliance with Risk Categorisation process**

DWSNZ Section 5.2.1.1 states that water suppliers can determine the protozoa log credit requirement using either the catchment risk category approach or by raw water Cryptosporidium monitoring. The catchment risk categorisation procedure involves a survey of the catchment. This survey must be commenced for supplies that currently have no log credit assignation.

Ayers St (TP00207), Dudley Park (TP02444) and Gammans Creek (TP02446) were not operating during the compliance period, therefore not assessed, however a CRA should still be completed if these are to continue being used as back-up.
### Summary of Treatment Processes and Associated Log Credits

<table>
<thead>
<tr>
<th>Plant name</th>
<th>Treatment Process</th>
<th>Potential Log Credit Available</th>
<th>Compliance with all other requirements of criterion</th>
<th>Log credit achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinnerys Rd TP00211</td>
<td>Bore security</td>
<td>N/A</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Cust TP00741</td>
<td>Bore security</td>
<td>N/A</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Darnley Sq. TP00209</td>
<td>Bore security</td>
<td>N/A</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Domain Rd TP02973</td>
<td>Bore security</td>
<td>N/A</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Mandeville 1 TP02442</td>
<td>UV</td>
<td>2</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Ohoka TP00594</td>
<td>Interim security</td>
<td>N/A</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Peraki St TP02443</td>
<td>Bore security</td>
<td>N/A</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Pegasus TP02780</td>
<td>Bore security</td>
<td>N/A</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Rinaldi Ave TP002445</td>
<td>Bore security</td>
<td>N/A</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>South Belt TP03053</td>
<td>Bore security</td>
<td>N/A</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>West Eyreton TP00742</td>
<td>Bore security</td>
<td>N/A</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td><strong>All other plants</strong></td>
<td>No treatment that meets the protozoa removal/inactivation requirements of the DWSNZ</td>
<td>N/A</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

1 Treatment Process meeting DWSNZ definition of available combination of treatment technology  
2 Further detail provided below under log credit assessment

### Summary of Log Credit Assessment

**Ayers St (TP00207):** This is usually a booster pump station and is only used as a treatment plant in emergency situations. It was not operational during the compliance period.

**Coopers Creek (TP00210):** This was the plant for Oxford Rural 2 which has now joined with Oxford Urban and will no longer be used.

**Dudley Park (TP02444):** Emergency back-up for the Rangiora supply. It was not operational during the compliance period.

**Fernside (TP00596):** This plant has been offline since the supply merged with Mandeville in March 2018.

**Garrymere (TP00593):** A project is currently in place to find the best means of updating this supply to achieve protozoa compliance.

**Gammons Creek (TP02446):** Emergency back-up for the Oxford Urban supply. It was not operational during the compliance period.
Kings Ave (TP00214): A project is currently in place which aims to upgrade this source to possibly include a UV system to achieve protozoa compliance. A CRA should be completed prior to installing UV to determine what log credits will be required.

Mandeville 1 (TP002442): A UV system was installed last year, however protozoal compliance was not achieved due to turbidity transgressions.

Mandeville 2 (TP00744): Emergency back-up for Mandeville and was only on for one day during this compliance period.

Poyntz Rd (TP00884): This supply will likely be abandoned and join another supply in the near future.

Waikuku Campground (TP02540): Emergency back-up for Kings Ave, Waikuku.

**Log Credit Total (Total of all Treatment Processes) Achieved:**

No log credit is required for the following secure GW supplies.

The following plants achieved sufficient log credit removal determined by their protozoal risk category:

- Chinnerys Rd: Protozoa compliant
- Cust: Protozoa compliant
- Darnley Sq: Protozoa compliant
- Domain Rd: Protozoa compliant
- Ohoka: Protozoa compliant
- Peraki St: Protozoa compliant
- Pegasus: Protozoa compliant
- Rinaldi Ave: Protozoa compliant
- South Belt: Protozoa compliant
- West Eyreton: Protozoa compliant

All other WDC plants achieved 0 log credit and are therefore non-compliant.
**Treatment Plant: Cyanotoxin Compliance**

None of the aforementioned plants have cyanotoxin management plans in place. For the surface supplies we are not aware of any cyanobacteria blooms. Waikuku Beach source water is thought to be recharged from the Ashley River and the WSP has indicated that periodic sampling will occur when algal mats reach a level that requires the issue of public notices which exclude people from the river. During the compliance period Public Notices were not issued so periodic sampling has not been necessary. Increasingly within the Canterbury region during summer months a number of rivers are being affected by cyanobacteria blooms and predictions are that this trend will continue. Therefore it is a risk that Council needs to be aware of.

**Treatment Plant: Chemical Compliance**

For all plants, plumbosolvent water public notices were provided to consumers at the specified frequency during the compliance period. There are no P2 determinands assigned to any WDC treatment plants.

**Treatment Plant: Radiological Compliance**

**Results Summary**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Number of Samples</th>
<th>Exceedances of MAVs</th>
<th>One in ten year test completed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ayers St TP00207</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Chinnerys Rd TP00211</td>
<td>1</td>
<td>0</td>
<td>2012</td>
</tr>
<tr>
<td>Coopers Creek TP00210</td>
<td>0</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Cust TP00741</td>
<td>1</td>
<td>0</td>
<td>2012</td>
</tr>
<tr>
<td>Darnley Sq. TP00209</td>
<td>1</td>
<td>0</td>
<td>2012</td>
</tr>
<tr>
<td>Domain Rd TP02973</td>
<td>1</td>
<td>0</td>
<td>2012</td>
</tr>
<tr>
<td>Dudley Park TP02444</td>
<td>0</td>
<td>N/A</td>
<td>NO</td>
</tr>
<tr>
<td>Fernside TP00596</td>
<td>0</td>
<td>N/A</td>
<td>NO</td>
</tr>
<tr>
<td>Gammans Creek TP05446</td>
<td>0</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Garrymere TP00593</td>
<td>0</td>
<td>N/A</td>
<td>NO</td>
</tr>
<tr>
<td>Kings Ave TP00214</td>
<td>0</td>
<td>N/A</td>
<td>NO</td>
</tr>
<tr>
<td>Mandeville 1 TP002442</td>
<td>0</td>
<td>N/A</td>
<td>NO</td>
</tr>
<tr>
<td>Mandeville 2 TP00744</td>
<td>0</td>
<td>N/A</td>
<td>NO</td>
</tr>
<tr>
<td>Ohoka TP00594</td>
<td>1</td>
<td>0</td>
<td>2016</td>
</tr>
<tr>
<td>Pegasus TP02780</td>
<td>1</td>
<td>0</td>
<td>2014</td>
</tr>
<tr>
<td>Peraki St TP02443</td>
<td>1</td>
<td>0</td>
<td>2012</td>
</tr>
<tr>
<td>Poyntz Rd TP00884</td>
<td>0</td>
<td>N/A</td>
<td>NO</td>
</tr>
<tr>
<td>Rinaldi Ave TP002445</td>
<td>1</td>
<td>0</td>
<td>2012</td>
</tr>
<tr>
<td>Rockford Rd TP00806</td>
<td>1</td>
<td>0</td>
<td>2017</td>
</tr>
<tr>
<td>South Belt TP03053</td>
<td>1</td>
<td>0</td>
<td>2011</td>
</tr>
<tr>
<td>Waikuku Campground TP02540</td>
<td>0</td>
<td>N/A</td>
<td>NO</td>
</tr>
<tr>
<td>West Eyreton TP00742</td>
<td>1</td>
<td>0</td>
<td>2012</td>
</tr>
</tbody>
</table>
This is only applicable to GW supplies which are not considered equivalent to surface water. The DWSNZ requires new wells to be tested before connecting them to the reticulation. Section 9.4 of the DWSNZ states that the monitoring frequency for established sources is ten years. Radiological testing was completed on the secure bores indicated above between 2011-2017. Therefore these comply with radiological compliance requirements.
Distribution Zones

Distribution Zone: Bacterial compliance

Summary of E.coli sampling results

<table>
<thead>
<tr>
<th>Distribution zone</th>
<th>Number of samples required</th>
<th>Number of samples collected</th>
<th>Number of transgressions</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cust CUS001CU</td>
<td>12</td>
<td>23</td>
<td>0</td>
<td>YES</td>
</tr>
<tr>
<td>Garrymere GAR001GA</td>
<td>12</td>
<td>12</td>
<td>0</td>
<td>YES</td>
</tr>
<tr>
<td>Kaiapoi KAI003KA</td>
<td>76</td>
<td>85</td>
<td>0</td>
<td>YES</td>
</tr>
<tr>
<td>Mandeville MAN009MA</td>
<td>52</td>
<td>53</td>
<td>0</td>
<td>YES</td>
</tr>
<tr>
<td>Ohoka OHO001OH</td>
<td>12</td>
<td>11</td>
<td>0</td>
<td>YES</td>
</tr>
<tr>
<td>Oxford Rural 1 OXF101OX</td>
<td>52</td>
<td>140</td>
<td>1</td>
<td>YES</td>
</tr>
<tr>
<td>Oxford Rural 2 OXF102OX</td>
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<td>69</td>
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<td>YES</td>
</tr>
<tr>
<td>Oxford Urban OXF103OX</td>
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<td>53</td>
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<td>YES</td>
</tr>
<tr>
<td>Pegasus PEG001PE</td>
<td>52</td>
<td>56</td>
<td>0</td>
<td>YES</td>
</tr>
<tr>
<td>Poyntz Rd POY001PO</td>
<td>12</td>
<td>12</td>
<td>0</td>
<td>YES</td>
</tr>
<tr>
<td>Rangiora RAN001RA</td>
<td>88</td>
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<td>YES</td>
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<tr>
<td>Summerhill WES004SU</td>
<td>12</td>
<td>12</td>
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</tr>
<tr>
<td>West Eyreton WES004WE</td>
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<td>13</td>
<td>0</td>
<td>YES</td>
</tr>
<tr>
<td>Waikuku Beach WAI011KI</td>
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<td>53</td>
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<td>YES</td>
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<tr>
<td>Woodend WOO002WO</td>
<td>52</td>
<td>54</td>
<td>0</td>
<td>YES</td>
</tr>
</tbody>
</table>

Summary of compliance with general sampling / analytical / remedial action requirements

All distribution zones complied with the requirements for sampling sites, sampling method, maximum interval between sampling days, minimum days of the week used for sampling, analytical technique and remedial actions.

Mandeville (MAN009MA): The maximum interval between samples was not achieved due to unforeseen staff resourcing issues. Leniency has been applied.

Ohoka (OHO001OH): Number of samples and maximum interval between samples was not achieved due to unforeseen staff resourcing issues. Leniency has been applied.

Oxford Rural 1 (OXF101OX): This zone had a transgression during the compliance period, however, WDC increased sampling in accordance with Table A1.4 of the DWSNZ.

Rangiora (RAN001RA): This zone had a transgression during the compliance period, however, WDC increased sampling in accordance with Table A1.4 of the DWSNZ.

Waikuku Beach (WAI011KI): The maximum interval between samples was not achieved due to unforeseen staff resourcing issues. Leniency has been applied.
Distribution Zone: Cyanotoxin Compliance

Cyanotoxin has not been assigned as a P2 for any WDC zones.

Distribution Zone: Chemical compliance

Priority 2 Determinands: Monitoring Results

Nitrate (NO$_3$) was assigned as a P2 to the Poyntz Rd distribution zone in November 2015.

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>P2 Determinands</th>
<th>Samples required</th>
<th>Samples taken</th>
<th>Transgressions</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poyntz Road</td>
<td>Nitrate (NO$_3$)</td>
<td>12</td>
<td>13</td>
<td>0</td>
<td>YES</td>
</tr>
</tbody>
</table>

Priority 2 Determinands: Summary of Compliance with General Sampling

Poyntz Rd complied for the number of samples taken during the compliance period. Sampling has been carried out monthly with a maximum of 42 days between samples. Analysis was provided by a MoH approved laboratory. All 12 samples exceeded 50% of the MAV but did not exceed the MAV. The WSP for Poyntz Rd includes a contingency plan for exceedances of the MAV for nitrate.

Summary of Audit Activities to Verify DWSNZ Monitoring Data

A selection of laboratory results were audited for Mandeville, Oxford Rural 1, Poyntz Rd and Rangiora supplies. This was performed in the CPH office on 11 September 2018.

Mandeville (MAN009) - Monthly reports for continuous monitoring data for UVT, turbidity and irradiance were audited.

Oxford Rural 1 (OXF101) - E.coli samples taken from the source and plant over Quarter three were audited. The data was found to correlate with the information entered on DWO.

Poyntz Rd (POY001) - Nitrate (NO$_3$) samples were audited over Quarter two and three. The data was found to correlate with the information entered on DWO.

Rangiora (RAN001) - E.coli samples taken from the source and plant from November to February were audited. The data was found to correlate with the information entered on DWO.
Summary of DWSNZ Compliance

Treatment Plants

Full compliance with the DWSNZ was ACHIEVED for Chinnerys Rd (TP00211), Cust (TP00741), Darnley Sq (TP00209), Domain Rd (TP02973), Pegasus (TP02780), Rinaldi Ave (TP002445), South Belt (TP03053), Peraki St (TP02443) and West Eyreton (TP00742). Leniency was applied for Ohoka (TP00594).

Full compliance with the DWSNZ was NOT ACHIEVED for Garrymere (TP00593), Mandeville 1 (TP002442), Mandeville 2 (TP00744), Coopers Creek (TP00210), Poyntz Rd (TP00884), Kings Ave (TP00214), Waikuku Campground (TP02540) and Rockford Rd (TP00806).

Ayers St (TP00207), Dudley Park (TP02444) and Gammans Creek (TP02446) were not assessed for compliance because they were not operating during the compliance period.

Distribution zones

Full compliance with the DWSNZ, was ACHIEVED for Cust (CUS001CU), Garrymere (GAR001GA), Kaiapoi (KAI003KA), Oxford Rural 1 (OXF101OX), Oxford Rural 2 (OXF102OX), Oxford Urban (OXF103OX), Pegasus (PEG001PE), Poyntz Rd (POY001PO), Rangiora (RAN001RA), West Eyreton (WES004WE), Summerhill (WES004SU), Waikuku Beach (WAI011KI), Woodend (WOO002WO). Leniency was applied for Mandeville (MAN009MA) and Ohoka (OHO001OH).
Assessment of Compliance with Duties of Drinking-water Suppliers under the Act

The duties of the water supplier under the Health Act have been **MET FOR ALL SUPPLIES.**

<table>
<thead>
<tr>
<th>Section 69S – Duty of suppliers in relation to the provision of drinking water</th>
<th>MET FOR ALL SUPPLIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>WDC appear to have taken all practicable steps to ensure an adequate supply of drinking water was provided to all points to which it supplies drinking water. Additionally WDC reports that there were no restrictions/interruptions in the water supply to the consumer of greater than 8 hours on any one occasion.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 69U – Duty to take reasonable steps to contribute to protection of source of drinking water</th>
<th>MET FOR ALL SUPPLIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>WDC is involved (and has the opportunity to make submissions) on the resource consent process. All WSPs cover catchment protection and acknowledge activities in the catchment.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 69ZD – Duty to keep records and make them available</th>
<th>MET FOR ALL SUPPLIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>WDC maintains DWO. General correspondence with WDC in addition to visits for implementation of WSPs have always resulted in appropriate records/documentation being provided when requested.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 69ZE – Duty to investigate complaints</th>
<th>MET FOR ALL SUPPLIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer complaints relating to WDCs water supplies were examined during implementation visits. WDC has demonstrated that if the complaint relates to the wholesomeness of the water, then all reasonable steps are taken to improve the wholesomeness of the drinking water. If the complaint relates to a failure to meet the DWSNZ then all practicable steps are taken to carry out the appropriate remedial action set out in the DWSNZ.</td>
<td></td>
</tr>
</tbody>
</table>

The results in this report relate only to the compliance of the above listed treatment plants and distribution zones.

**Kaiapoi, Rangiora:** Under the Health (Drinking Water) Amendment 2007, these supplies fall into the category of a large drinking water supply. Therefore the legal requirement to take all practicable steps to comply with the DWSNZ applied from 1 July 2012.

**Mandeville, Oxford Rural 1, Oxford Rural 2, Oxford Urban, Pegasus, West Eyreton, Woodend, and Waikuku:** Under the Health (Drinking Water) Amendment 2007, these supplies fall into the category of a minor drinking water supply. Therefore the legal
requirement to take all practicable steps to comply with the DWSNZ applied from 1 July 2014.

**Cust, Garrymere, Ohoka and Poyntz Rd:** Under the Health (Drinking Water) Amendment 2007, these supplies fall into the category of a small drinking water supply. Therefore the legal requirement to take all practicable steps to comply with the DWSNZ applied from 1 July 2015.

Information in this report may be provided to the MoH at their request. With the exception of the MoH, this report shall not be reproduced without the approval of the South Island Drinking Water Assessment Unit and WDC.

Completed 19 September 2018

Laura Bruce
IANZ Accredited Drinking Water Assessor
South Island Drinking Water Assessment Unit, Christchurch
### Assessment Report Information

<table>
<thead>
<tr>
<th>Report identifier</th>
<th>WaimakaririDC_DWSNZ2005/08Compliance_190918_v1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drinking Water Assessment Unit (Inspection Body)</td>
<td>South Island Drinking Water Assessment Unit PO Box 1475 Christchurch 8140 Tel: 03 3641777</td>
</tr>
<tr>
<td>DWA</td>
<td>Laura Bruce</td>
</tr>
<tr>
<td>Assessment Date</td>
<td>11/09/2017</td>
</tr>
<tr>
<td>Description of assessment work</td>
<td>Assessment of Compliance with DWSNZ for Cust (CUS001, G00468, G01984, TP00741, CUS001CU), Kaiapoi (KA1003, G01502, G00151, G00150 G01501, G00148, G00149 G01505, TP02443, TP00209, TP002445, KAI003KA), Mandeville (MAN009, G00372, G00470, G01500, G01950, TP00596, TP00744, TP02442, MAN009MA), Ohoka (OHO001, G02164, G00370, TP00594, OHO0010H), Oxford Rural 1 (OXF101, S00470, S00124, G02204, TP00806, OXF101OX), Oxford Rural 2 (OXF102, S00126, TP00210, OXF102OX), Oxford Urban (OXF103, G01893, G03006, S00883, TP02446, TP02973, OXF103OX), Pegasus (PEG001, G01946, G01947, G01759, G02085, TP02780, PEG001PE), Poyntz Road (POY001, G00547, TP00884, POY001PO), Rangiora (RAN001, G01758, G01985, G01986, G00147, S00124, G01503, G01504, G02139 TP03053, TP02444, TP02007, RAN001RA) Waikuku (KAI011, G00155, G01573, TP00214, WAIO11KI), West Eyreton (WES004, G00469, G001987, TP00742, WES004WE, WES004SU), Woodend (WOO002, G00152, G01166, G01916, TP00211, WOO002WO), Garrymere (GAR001, G00369, TP00593, GAR001GA).</td>
</tr>
<tr>
<td>Equipment Used</td>
<td>Drinking Water Online (DWO).</td>
</tr>
<tr>
<td>Water Supply Owner / Person Responsible</td>
<td>Waimakariri District Council, Colin Roxburgh</td>
</tr>
<tr>
<td>Assessment method</td>
<td>Standard assessment as per Scope 1A Procedure Drinking Water Standards for New Zealand 2005(revised 2008)</td>
</tr>
<tr>
<td>Documents and Information</td>
<td>Drinking Water Standards for New Zealand 2005 (revised 2008) Part 2A Health Act 1956 Email correspondence with WDC Complaint management data assessed during Implementation visits Audited laboratory results from Mandeville, Poyntz Road, Oxford Rural 1 and Rangiora</td>
</tr>
<tr>
<td>Site of Assessment</td>
<td>CPH Office, Christchurch</td>
</tr>
<tr>
<td>Omissions from proposed assessment</td>
<td>Nil</td>
</tr>
<tr>
<td>Sub-contracted work</td>
<td>Nil</td>
</tr>
<tr>
<td>Document checked by</td>
<td>Denise Tully IANZ Accredited Drinking Water Assessor 17/09/2018</td>
</tr>
<tr>
<td>Release of report authorised by</td>
<td>Laura Bruce IANZ Accredited Drinking Water Assessor 19/09/2018</td>
</tr>
</tbody>
</table>

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If you do not agree with the findings of this report a written appeal must be lodged with the Technical Manager (South Island Drinking Water Assessment Unit, PO Box 1475, Christchurch 8140) within 2 months of receipt of this report. The Technical Manager will arrange for a review to be undertaken using the MoH appeals procedure.
<table>
<thead>
<tr>
<th>Supply Zone (Code)</th>
<th>Area(s) of Non-compliance with Health Act and/or the Standards (DWSNZ05/08)</th>
<th>Why has this occurred?</th>
<th>What measures are in place or will be in place to rectify situation?</th>
<th>Timeframe to rectify</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garrymere</td>
<td>Protozoa Section 5 Treatment plant</td>
<td>There is currently no treatment for protozoa installed (just chlorine treatment)</td>
<td>A concept design has been prepared for a filtration and UV plant, and a budget put in place for the 2018/19 and 2019/20 financial years. Due to high rating impact a working group is being established with residents before implementation</td>
<td>June 2020</td>
</tr>
<tr>
<td>Mandeville</td>
<td>Protozoa Section 5 Treatment plant</td>
<td>There is a UV plant installed and operational. This was compliant for 99.9% of year, but failed for remaining 0.1% of year due to turbidity spikes.</td>
<td>The reason for the turbidity spikes is the start up of Well 1. The procedures for flushing this well before bringing online are being worked through with the operators to avoid this issue.</td>
<td>Immediately.</td>
</tr>
<tr>
<td>Oxford Rural No 1</td>
<td>Protozoa Section 5 Treatment plant</td>
<td>The current river source does not treat for protozoa (just chlorine for bacteria).</td>
<td>A new deep well has been drilled and trunk main being constructed. This is expected to meet all requirements for secure groundwater allowing the old source to be relegated to a back-up.</td>
<td>November 2018</td>
</tr>
<tr>
<td>Supply Zone (Code)</td>
<td>Area(s) of Non-compliance with Health Act and/or the Standards (DWSNZ05/08)</td>
<td>Why has this occurred?</td>
<td>What measures are in place or will be in place to rectify situation?</td>
<td>Timeframe to rectify</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------------------</td>
<td>------------------------------------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Oxford Rural No 2</td>
<td>Protozoa Section 5 Treatment plant</td>
<td>For the 2017/18 year the scheme was connected to a river intake with no treatment for protozoa. The scheme is now joined to Oxford Urban which has protozoal compliance.</td>
<td>The old source relegated to a backup and the scheme connected to a compliant source.</td>
<td>Late June 2018.</td>
</tr>
<tr>
<td>Poyntz Road</td>
<td>Protozoa Section 5 Treatment plant</td>
<td>The current source is a shallow well with no treatment for protozoa (just bacteria).</td>
<td>A budget is in place to connect the scheme to a compliant scheme. This will have a very significant rating impact however so community consultation required first.</td>
<td>June 2020</td>
</tr>
<tr>
<td>Waikuku</td>
<td>Protozoa Section 5 Treatment plant</td>
<td>A UV treatment plant has been constructed, however cannot be compliant until crypto / giardia sampling is complete for 12 months. It was planned to apply for the bore heads to be complaint, however a 5m stock exclusion zone was not able to be achieved with the adjacent landowners to the bore so sampling is required as the alternative pathway to compliance.</td>
<td>Crypto and giardia sampling to confirm log removal requirements of UV plant.</td>
<td>By June 2019 12 months of sampling will be complete</td>
</tr>
</tbody>
</table>
1. **SUMMARY**

1.1. The purpose of this report is to provide further information on the proposals for repairing Jones Street, Kaiapoi and to seek approval from Utilities and Roading Committee to develop the design as proposed.

1.2. The works are part of the Earthquake Infrastructure Recovery Programme and Jones Street is the last roading project in the programme. There is a budget of $580,000 available for permanent repairs and the current project cost estimate is $560,000.

1.3. Jones Street bisects, and provides access to, the Kaiapoi East mixed-use business area. It is a key link through to the town centre, particularly since the construction of the new Feldwick Drive and its shared path, which currently terminates at Cass Street.

1.4. The future use of Jones Street is linked to the development of the adjacent mixed-use business area. How, and when, the mixed-use business area develops has not been confirmed, and is currently the subject of the Kaiapoi Town Centre Plan refresh and implementation.

1.5. The concept design proposed will accommodate the movements of larger vehicles and higher parking turnover likely to be associated with mixed-use business development.

1.6. The option of including a swale on the east side of the street has been further considered and would result in additional land being required to accommodate the swale. Also due to the low lying nature of the area, a swale is not likely to operate effectively in this location and therefore it is proposed to install kerb and channel on both sides of the road.

1.7. In order to enable construction this year, tender documents will be issued in late December with a generous tender period that recognises the holiday period. Award of contract is programmed for the end of February 2019 with a start on site in March will allow completion of the works by the end of May 2019.
1.8. There are currently no provisions for water or wastewater services for future development. Wastewater provisions can be installed in future without affecting reconstructed roads or paths but water services would require excavation through these.

Attachments:

i. Draft Reserves Master Layout Plan - Kaiapoi East (Doc. 181008116958)

2. RECOMMENDATION

THAT the Utilities & Roading Committee:

(a) Receives report No. 181003114944

(b) Approves the proposed road cross section as shown in Figure 2 of the report which includes the installation of kerb and channel along both sides of the road;

(c) Notes that there is currently no funding available to allow for water and sewer reticulation to be installed and therefore this work will be required to be undertaken in the future;

(d) Notes the recovery works construction programme as presented in Attachment 1 of this report.

(e) Forwards this report to the Regeneration Steering Group for their information.

3. BACKGROUND

3.1. The last remaining roading project in the Earthquake Infrastructure Recovery Programme is the repair of Jones Street, Kaiapoi, and its approaches from the west on Charles Street, Sewell Street and Cass Street.

3.2. There are other roading projects, such as Charles Street reconstruction, in the regeneration area, but these are included within the Regeneration Programme and not the Earthquake Recovery Programme.

3.3. The Waimakariri Residential Red Zone Recovery Plan (Recovery Plan) retains Jones Street. Along with the realignment of Feldwick Drive opened in August 2018 (the Kaiapoi East Access Road project), this route provides a new direct link from the remaining Kaiapoi East neighbourhoods to the town centre via Jones Street and Charles Street.

3.4. With the new Feldwick Drive constructed, the community will be looking for a completed road network. However, the future use of Jones Street will be influenced by the development of the Kaiapoi East mixed-use business area so any road reconstruction undertaken now needs to consider the future development of the mixed-use business area.

3.5. The rehabilitation of Cass Street and Charles Street to the east of Jones Street is being delivered by the District Regeneration Project Control Group. Concept designs for this are under development and being coordinated with the Jones Street project. The scope includes pedestrian and cycle linkages through the Kaiapoi East Regeneration Area.

3.6. A report was presented to the Regeneration Steering Group on 11 June 2018 outlining repair scope and timing options for Jones Street. The discussion at the meeting focused around Options 4 & 5 and the recommendation from that meeting (refer TRIM 180426045143) was to proceed with investigating the potential of a hybrid of those options.
for the reconstruction of Jones Street. The hybrid option would include replacement kerb and channel on the west side and a swale on the east side, in order to give some flexibility for the future development of the mixed-use business area and would consider road widths.

3.7. The matter was referred to the Utilities and Roading Committee on 19 June 2018 who motioned that the matter "lie on the table" while staff carried out more work on the best option for drainage (refer TRIM 180619067819). This would identify any merits of providing a swale on the eastern side of Jones Street as part of the current reconstruction project rather than replacing the kerb and channel.

3.8. A number of options for discussion were presented in the previous report, including options to temporarily close Jones St. The directive from the Regeneration Steering Group was to undertake more work, with the permanent repair options being an urgent priority.

3.9. This report provides additional information on the design and seeks approval for staff to take the preferred cross section through to construction accordingly.

4. **ISSUES AND OPTIONS**

4.1. Under the Recovery Plan, Jones Street bisects, and provides access to, the Kaiapoi East mixed-use business area and provides access to the town centre, via Charles Street. It also provides access to one private residential property at 14 Jones Street.

4.2. The context of Jones Street within the wider area is shown in the attached Draft Reserves Master Plan, which is currently out for consultation, closing 5 October 2018.

4.3. Jones Street is a key link through to the town centre, particularly since the construction of the new Feldwick Drive and its shared path, which currently terminates at Cass Street. It is proposed to extend the shared path along Jones Street to Charles Street.

4.4. The reconstruction of Jones Street was originally intended to be delivered as part of the Kaiapoi East Access Road project. It includes some works to the west in Charles Street and Sewell Street. However, since it is influenced by the mixed-use business areas on either side, design development was deferred. Budget is allocated for construction this financial year.

4.5. Given the proposed adjacent business use, it is desirable for traffic lane and parking widths to accommodate the movements of larger vehicles and higher parking turnover. Figure 1 below shows suitable widths with a swale for drainage along the eastern side.

---

**Figure 1: Jones Street proposed typical cross section with swale**
4.6. There are a number of disadvantages with the inclusion of a swale in this location:

- The desired cross section does not fit within the existing road corridor and a minimum of 3-4m wide strip of land would be required from the mixed-use business area.

- Figure 1 depicts the minimum swale depth. Allowing for the longitudinal fall on the swale this would likely be 0.5m deeper at either end, requiring an additional 7m width unless a ditch-style profile were adopted. This is not desirable in a mixed use business zone as it would create a hazard. The swale invert would be close to, if not below, the groundwater table and it is unlikely that the levels will be compatible with the available outfalls. This could be overcome by a very flat swale with a subsoil under-drain but this carries a significant risk of clashes with existing services. This would also likely result in water being present in the swale for long periods of time, which is undesirable. In this case it is unlikely to be more economic than kerb and channel.

- The adjacent land will potentially need filling as part of its development and a swale has the effect of fixing lower levels along the road shoulder, which opposes that objective. While a kerb will also have this effect, the adjacent footpath will sit closer to the road and slightly higher due to the height of the kerb upstand.

- An option to defer the construction of kerb and channel until the adjacent land is developed would need to be fully funded by Council as it would not be eligible for any central government subsidy.

4.7. The previous report’s recommendation was driven by the lowest capital cost, where there was a small difference in favour of the narrower road with swales on each side. Due to the uncertainties around detailed design of the swales noted above those savings are not guaranteed.

4.8. Further consideration has been given to the previous Option 5 (rebuild to a business standard) and a typical cross section is shown in Figure 2 below.

![Figure 2: Jones Street typical cross section with kerbs and channel both sides](image)

4.9. This is a conventional design which, accordingly, gives less risk of cost estimate increases through the development of the design when compared to designing for swales. The design also fits within the existing road corridor and is more compatible with future raised levels on the adjacent development land. Below-ground works, and the potential for clashes with existing underground services, will be minimised with this approach.
4.10. For the reasons noted above, the preferred design includes kerb and channel on both sides of the road as shown in Figure 2.

4.11. Access to the future mixed-use business area can be made by modifying the kerbs to provide a commercial vehicle crossing. This could be carried out without significant excavation of the reconstructed road, although the paths would be affected over the width of the access. The cost of installing these entrances would be borne by the developer.

4.12. In order to enable construction this year, tender documents will be issued late December with a generous tender period that recognises the holiday period. Award of contract at the end of February 2019 with a start on site in March will allow completion of the works by the end of May 2019.

**Water Services**

4.13. The old water mains in Jones Street were asbestos cement pipes and decommissioned at the end of 2017. Due to the amount of damage caused by the earthquakes, their age and lack of resilience they were not suitable to remain in service. The residential property at 14 Jones Street has been provided with a new supply from the replacement water main in Cass Street.

4.14. New provisions would be required to service any future development along Jones Street. New DN180 PE water pipes would be laid within the carriageway along Jones Street and along Charles Street and Sewell Street to connect into the existing reticulation in Charles Street, Sewell Street and Cass Street. A tee could also be provided along the Sewell Street east cul-de-sac shown on the draft Mixed-Use Business Area outline development plan. Fire hydrants would be placed at regular spacing along the pipes to provide firefighting water to the new development. The type of development would be limited to the volume of water that is available for firefighting purposes. Sub-mains would be laid along the grass verges on both sides of the road reserve to provide ‘domestic’ flows to the new properties.

4.15. It would be desirable to install this reticulation for future water supply provisions at the same time as the road reconstruction however there is currently no budget allowance to do so.

**Wastewater Services**

4.16. The old gravity sewer in Jones Street was damaged beyond repair. The residential property at 14 Jones Street has been provided with an on-site pumped system which is connected to the existing gravity sewer in Meadow Street.

4.17. It is proposed that sewage be removed from the future properties in the mixed-use business area using a pressure sewer system. A pressure sewer system is more seismically resilient compared to a gravity type system. Pipes can be laid relatively close to the surface which will help reduce costs in an area that has high ground water and poor ground conditions. Each property would have an on-site pump discharging into the pressure sewer.

4.18. The pumps would be located on private property and would become the responsibility of the landowner. The pumps would be installed in an underground chamber and wastewater would gravitate within the property to the pump station before being pumped to the Council network. The pressure sewer pipes can be installed in the grass verge of the road. Pipe diameters are likely to be relatively small, say 50mm inside diameter PE pipe, but this will depend on the wastewater flow calculations for each property. Any pressure sewer road crossings can be drilled following the installation of the new roads, if required.
4.19. On the basis of the above, sewer servicing provisions for the mixed-use business area can be made at a future date without excavating through reconstructed roads or paths.

5. COMMUNITY VIEWS

Groups and Organisations

5.1. The repair works will affect the private property owner at 14 Jones Street. A vehicle crossing will be provided in line with the existing driveway and staff will engage with this property owner during the development of the design. As with any such works, access to property will be maintained throughout construction.

5.2. Subject to the recommendation in this report being adopted, the works will be completed before the sports and recreational facilities in the Regeneration Area are available for use.

5.3. The works have been planned in consultation with members of the District Regeneration Project Control Group.

Wider Community

5.4. The wider community was consulted on the Roading options for Kaiapoi East during the development of the Recovery Plan. The new Kaiapoi East road link (now named Feldwick Drive) and the retention of Jones Street was shown in both the Preliminary Draft and Draft Recovery Plan and confirmed in the approval of the Recovery Plan in 2016.

5.5. Prior to the works starting on site, leaflets will be delivered to residents to advise them of the works. Any significant delays or changes will be similarly communicated.

6. IMPLICATIONS AND RISKS

Financial Implications

6.1. Jones Street is included in the Earthquake Infrastructure Recovery Programme. There is currently $580,000 allocated in the 18/19 financial year.

6.2. The current project estimate based on the cross-section shown in Figure 2 is $560,000, which includes an allowance for street lighting replacement, professional fees and a 25% contingency. This level of contingency is set by the confidence-based method used throughout the Earthquake Infrastructure Recovery Programme.

6.3. New Zealand Transport Agency (NZTA) funding (subsidy) is available under the Emergency Works Category in the 2018/19 financial year. This is on the basis that the road would be rebuilt to a similar level of service as pre-earthquake. NZTA have previously given some flexibility on earthquake projects where a better outcome could be achieved for a modest additional cost over like-for-like replacement. This would need to be discussed with NZTA once the project cost estimate is confirmed.

6.4. If the project were constructed after the 2018/19 financial year NZTA has confirmed that the Emergency Works Category would not apply, given the length of time the road will have been left in a damaged state. An application would therefore need to be made under an alternative NZTA funding category. Funding has already been set for the next 3 years.
and it may not be possible to make a new application for this period. This would need to be discussed with NZTA once Council decides its preferred outcome.

Community Implications

6.5. The Kaiapoi East community has experienced difficult road conditions for some time and is eager to see the network permanently repaired. The recent completion of the new Kaiapoi East road link (new Feldwick Drive) which connects directly to Jones Street gives additional impetus for repairs to be progressed. The stark contrast in condition between the new Feldwick Drive and Jones Street, along with the increase in use, draws attention to the need for repair.

Risk Management

6.6. Jones Street bisects the Kaiapoi East mixed-use business area and will be a key access corridor. Future planning for the mixed-use business area is underway through a refresh of the Kaiapoi Town Centre Plan, with consultation on the draft plan having recently closed. At this stage there is minimal certainty on the development of the mixed-use business area. There is the risk that any permanent repairs to Jones Street will not be compatible with the future development of the mixed-use business area, potentially resulting in rework. It should be noted that decisions around the development are potentially many years away.

6.7. Adopting a wider carriageway than that presented as the preferred option in the previous Jones Street repair report (refer 3.5) would mitigate much of this risk. This is Option 5 of the previous report and it would better suit the movements of larger vehicles and higher parking turnover.

6.8. The risk of needing to retro-fit vehicle crossings cannot be mitigated. For example, a main access to the mixed-use business area may be needed on the eastern side of Jones Street where Sewell Street currently sits. This is shown in the draft outline development plan currently. Such works are unlikely to require significant excavation of the reconstructed road but would affect paths over the width of the crossing.

6.9. Another key risk is the possible future intersection configuration at the intersection of Jones Street and Cass Street. Alternative configurations such right turn bays or a roundabout may be the desired outcome from a traffic engineering perspective to provide access to the sport fields facilities proposed under the Draft Reserves Master Plan. A separate exercise is underway to confirm the concept design for recreational facilities throughout the Kaiapoi East Regeneration Area.

Health and Safety

6.10. This is a conventional road reconstruction project. All works will be managed in accordance with the U&R Department’s H&S practices relating to safety in design, engaging contractors, and overseeing construction works.

7. CONTEXT

Policy

7.1. This matter is not a matter of significance in terms of the Council’s Significance Policy.
Legislation

7.2. The Greater Christchurch Regeneration Act, Land Transport Management Act, Local Government Act are all relevant in this matter.

Community Outcomes

This report consider 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.

7.1. **Delegations**

Utilities & Roading Committee has the authority to approve the implementation of tasks identified in the Long Term Plan or Annual Plan for the committee’s activities, as adopted by the Council from time to time, where financial provision has been made.
Key activities & features

1. Sports fields & softball diamonds
2. Car parking
3. Toilets & changing rooms
4. Proposed shared walking/cycling path
5. Existing shared walking/cycling path
6. Space for outdoor events
7. Beswick stormwater area
8. Dog park
9. Community BMX track
10. Historic railway station precinct
11. Maritime heritage precinct
12. Boat trailer parking
13. Petanque court & jetty
14. Pump station lookout
15. Children’s cycle training track
16. Playground renewal
17. Stormwater drain
18. Feldwick stormwater area
19. Future Memorial Gardens
1. **SUMMARY**

1.1 This report requests that the Oxford-Ohoka Community Board recommends the closure of Waimakariri District Council owned stockwater race R8-1, to the Utilities and Roading Committee.

1.2 R8-1 is located to the south east of Oxford Township, south of Oxford Road. Running east it crosses Quigleys Road and Carleton Road before intercepting race R8-1A. Its location is shown in attachment i.

1.3 The reason for the proposed closure of R8-1 is that the supply of stockwater is no longer required and the additional flow supplied by the water race is erratic, making it too unreliable to meet the water supply and stock water requirements of those who have access to it. It is confirmed that all properties who have access to R8-1 have alternate stock water supplies, and all have supplied written approval in support of the closure.

**Attachments:**

i. Location of R8-1  
ii. WIL Proposed Diversion Route  
iii. Site Visit Photos  
iv. Archaeological Assessment (Record No.180816092636)  
v. Flood Hazard Mapping (200 Year)  
vi. Environment Canterbury Resource Consent - CRC133965

2. **RECOMMENDATION**

**THAT** the Oxford-Ohoka Community Board recommends:

**THAT** the Utilities and Roading Committee:

(a) **Receives** report no. 180919108570

(b) **Approves** the closure of Stockwater Race R8-1.
(c) **Notes** that, following the closure of R8-1, Council staff will discuss maintenance arrangements and possible filling in of sections of the race with the affected property owners.

(d) **Notes** that, following approval to close R8-1, the Council may be required to apply for an Archaeological Authority as per requirements of *Heritage New Zealand Pouhere Toanga Act 2014*, in order to authorise earthworks associated with possible filling in of sections.

3. **BACKGROUND**

3.1 The applicant obtained written approval from all of the identified affected parties, whose properties currently have access to R8-1. This support was provided as an attachment to the application. It should be noted that one signee provided support for two of the five affected properties, which he is in ownership of. Additional feedback was also received as part of consultation undertaken by Council which provided affected parties with one month to object or to comment further on the proposed closure.

3.2 One of the affected property owners explained verbally that one of the main issues with R8-1 is the lack of maintenance undertaken on the race. As noted during site visits to different portions of the race, overgrowth in some sections has caused the channel to become undefined so that flow is affected. The affected property owner explained that the flow of R8-1 is erratic and unreliable, therefore properties who have access to the race cannot rely on it as a source of stockwater and have chosen to utilise alternative sources.

3.3 Upon site visit to 234 Warren Road it was observed that R8-1 has flow within this site, as it branches off from race R8. However once R8-1 reaches Quigleys Road this flow diminishes significantly due to the increased width and lack of maintenance along this section of the race. Upon site visit to Quigleys Road, there was a small amount of flow under the road itself but this flow became dry not far downstream of this point where the race runs alongside the road. Upon one site visit to Carleton Road, which is further downstream, R8-1 was completely dry in this location. Refer to attachment iii for site visit photos.

4. **ISSUES AND OPTIONS**

**Written Support Provided**

4.1. Five properties are deemed affected by the proposed closure on the basis that R8-1 currently services their properties. All property owners, have provided written support and two owners also returned feedback forms reiterating their support as part of consultation undertaken by Council.

**Farm Management**

4.2. The functionality of the affected properties would be improved upon closure of R8-1 because the land use of the affected properties is predominantly farming. R8-1 currently hinders this land use by causing nuisance because the race cannot function as it is intended to, in its current state.

**Race Maintenance**

4.3. If the race closes, maintenance options include filling of the redundant race. Staff would provide advice to owners wishing to fill in their section of the race.
Drainage

4.4. Based on available flood hazard and contour maps, it is not expected that the closure of R8-1 would impact drainage capacity in a flood event. This is because it does not follow any main overland flow paths. However, in recent years, flooding has affected many races within the stockwater race network and these channels may become inundated in major rainfall events. Please refer to attachment v for Flood Hazard Map (200 year).

4.5. Localised drainage will need to be considered before filling in. The Council will work with each landowner to decide whether each reach of race can be filled in or left open for drainage purposes.

4.6. If filling occurs, it should be noted that it is not intended that road culverts be removed.

Aquifer Recharge and River Flow Augmentation

4.7. The Council asked Environment Canterbury (ECan) to provide feedback relating to the proposed closure, seeking advice on possible effects on aquifer recharge and river flow augmentation.

4.8. ECan advised Council that their preference is for no stockwater races to be closed due to the significant benefits of the scheme, in terms of diluting nitrate in ground water and sustaining flows in spring-fed streams. They noted that the closure of races can mean that local farmers will need to reduce their nitrate losses in order to meet water quality targets. They noted that closures can also reduce the reliability of downstream surface water takes and stream depleting ground water takes because minimum flows could occur more often following closure.

4.9. The stockwater race system’s function is primarily for irrigation and stockwater supply. It is self-funding and paid for by the stockwater users. The Council currently has ECan consent (CRC133965) to take surface water from the Waimakariri River at the Browns Rock intake. Condition 2 of CRC133965 states that water taken shall only be used for stockwater, domestic irrigation, for hydro-electric power generation and for purposes associated with CRC000585. Any other use of the water is not covered by this consent.

4.10. Condition 8 of CRC133965 states that ECan may review the conditions of the consent for the purposes of “reducing the rate of abstraction to correspond to the actual rate of water usage” or “requiring the implementation of measures to monitor and or reduce the loss of water to groundwater as a result of the exercise of this consent”.

4.11. ECan advised that in order for them to assess the effects of the proposed closure, they would need information on rates of water loss from the races. ECan suggested this could be obtained by gauging flows at the upper and lower ends of the proposed closure section of the race. This information would need to be recorded on multiple occasions over a year in order to accommodate natural variations in groundwater levels.

4.12. Council staff do not believe that such measures are warranted in this instance. Relatively there is minimal recharge occurring from R8-1, as the length (3.3km) equates to only 0.4% of the total stockwater scheme, which is 831km long. Therefore, this closure is considered to be insignificant.

4.13. It is considered by Council staff that any potential effects on ground or surface water flows in nearby waterbodies and ground water following the closure are unlikely to be material.

4.14. The Management Team have reviewed this report and support the recommendations.
5. **COMMUNITY VIEWS**

**Groups and Organisations**

5.1. The Council consulted on the proposed closure of R8-1 by giving all property owners deemed affected by the proposed closure one month to object. Consultation was undertaken by way of a letter, accompanied by a Feedback Form and a pre-paid return envelope. Affected parties were asked to provide feedback in support of or in opposition to the proposed closure, notwithstanding any previously provided written approvals supplied by the applicant at time of application.

5.2. Two feedback forms were returned, reiterating the support of these property owners.

**Kaitiaki**

5.3. Te Rūnanga o Ngāi Tahu discussed the proposed closure of R8-1 at their Kaitiaki Meeting held in July. The following feedback was received;

a) The Kaitiaki commented that they were originally involved during the establishment of the Waimakariri Irrigation Scheme and therefore would like to remain involved and up to date with any changes to the scheme (including how water is being supplied).

b) They queried whether any fish species are present in R8-1 and if there are species present, these should be removed and relocated before the race is closed.

c) The Kaitiaki acknowledged that an archaeological assessment is being prepared and commented that the Mahaanui Office should receive a copy.

d) The Kaitiaki confirmed they would be interested in receiving these types of applications in the future for general consideration and comment.

5.4. The flow of R8-1 is intermittent, especially in the lower reaches of the race. Therefore it is not expected that R8-1 provides suitable ecological habitat for fish species. Condition 3 of CRC133965, states that “water shall only be taken when a fish screen with a mesh size or slot width not exceeding five millimetres is operated and maintained across the intake to ensure that fish and fish fry are prevented from passing through the intake” and that “all practicable measures shall be taken to avoid the stranding of fish in pools and channels”.

**Archaeological Assessment**

5.5. As per requirements of Heritage New Zealand, under the *Heritage New Zealand Pouhere Toanga Act 2014* and the *Resource Management Act 1991*, Underground Overground Archaeology Limited were engaged by Council to undertake an archaeological assessment relating to the proposed closure of R8-1. This assessment was required in order to assess the heritage values of the race, and the impact of potential closure on the values of the wider race network. This is a requirement of Heritage New Zealand, triggered because the Stockwater Race Scheme was established pre 1900.

5.6. The Archaeological Assessments produced deemed R8-1 site to have moderate archaeological values, therefore the following recommendations have been made:

a) If it is decided to undertake works, Council should consider closure of the race in the first instance. This work will not require an archaeological authority.
b) If it is decided that infilling of the water race is required, this should be done using imported material and an application should be made to Heritage New Zealand Pouhere Taonga for an archaeological authority.

c) Further research is required to determine whether the closure of the water race will affect any other archaeological sites within the vicinity of the race.

d) An archaeological authority may be required for future works which will affect this archaeological site.

e) If at any stage during the works Maori material is discovered, local iwi should be consulted in the first instance. If Maori material does exist in the area, damage to this should be minimised. Any Maori artefacts will be prima facie, property of the Crown and will be submitted to the appropriate institutions.

5.7 If a decision is made to close R8-1, then the Council will need to apply for an Archaeological Authority from Heritage New Zealand under Heritage New Zealand Pouhere Toanga Act 2014, to fill in parts of the race.

Other Stakeholders

5.8 Waimakariri Irrigation Limited (WIL) have been consulted, and have confirmed they can divert the existing flow of R8-1 along race R8, and down race R8-1A, thus bypassing R8-1. WIL confirmed they see no issues with the proposed race closure in terms of impacts on stockwater supply to downstream properties. Refer to attachment ii, which outlines WIL’s proposed diversion route following closure of R8-1.

5.9 Council staff plan to consult the Waimakariri Water Race Advisory Group and the Waimakariri Water Zone Committee in November, following consultation with the Oxford-Ohoka Community Board. Feedback received from those consulted will be included in a report to the Utilities and Roading Committee which is due to be presented at their meeting on December 11th, 2018.

6. IMPLICATIONS AND RISKS

Financial Implications

6.1 All of the properties who will lose access to R8-1 should it be closed, will retain access to the scheme via an alternative race. Therefore, the closure of R8-1 will not impact rates.

Upon closure if filling is preferred, drainage staff will give advice to property owners prior to obtaining an authority from Heritage New Zealand to fill the pre 1900 races.

Community Implications

6.2 Implications on the Community of closing R8-1 include;

- Allow properties affected to utilise more of their land for productive farming land use.
- Remove frustration of property owners around having a race on their properties that is obsolete, unused and poorly maintained.
- Closing R8-1 may set a precedence within the community that if existing stockwater races are poorly maintained and have become a hindrance to farm management, then the Council will approve their closure.
6.3 Closure of Stockwater Races within the scheme, reflects a change in farming methods and available technology since its establishment in the late 1800’s.

**Risk Management**

6.4 There is potential for further closure of water races associated with ongoing changes to land use and farming methods. All proposed closures will be reported to the Utilities and Roading Committee for consideration, following consultation with affected parties. The financial implications will be considered for each closure in terms of potential effects on existing ratepayers, the operation of the balance of the network and on the overall level of service provided.

6.5 When future stockwater race closure applications are received, Council staff should carefully consider the impacts of the proposed closure, being mindful of the effects on downstream users.

**Health and Safety**

6.6 The proposal to close the water race will improve health and safety within the affected properties, especially if channels are filled in. Filling in the channel would remove risks associated with falling or crashing into the channel causing harm to human health or machinery.

6.7 There are two portions of R8-1 which cross under unsealed parts of Quigleys Road and Carleton Road, both of these roads are not sealed. Possible filling in and definite removal of flow in these areas, which are accessible by the public, would remove risks associated with flowing or standing water.

7. **CONTEXT**

7.1 **Policy**

This is not a matter of significance in terms of the Council’s Significance and Engagement Policy. The proposal is consistent with the Stockwater Race Closure Policy. The Policy requires the decision making process in Part 6 of the *Local Government Act 2002* to be followed when making a decision to close a water race.

In particular, section 4.2 of the Policy requires an assessment of significance in terms of the Council’s Significance Policy. An assessment against the Significance Policy shows the following;

i. the level of service for the supply and delivery of stockwater will not be significantly affected if the race is closed as affected properties have indicated they do not require a supply of stockwater via the race R8-1;

ii. the section of the race considered for closure is not a strategic asset;

iii. the closure will not significantly affect the Council’s ability to supply stock water;

iv. the closure will not significantly affect costs to Council or ratepayers as operating and maintenance costs are likely to reduce following the closure. There will be no change in rating income as a result of this closure.

For these reasons, the water race closure proposal is not considered significant and therefore consultation with residents using the Special Consultative Procedure is not required.

Consultation with affected parties in accordance with *Section 82* of the Act has been undertaken for properties paying the water race rate who have access to R8-1.
A consensus in support of the closure of R8-1 is indicated by all affected properties.

7.2. Legislation

Water race closure procedures, including public consultation requirements, are outlined in the Local Government Act 2002. In terms of this water race closure proposal, Sections 77, 78 and 82 of the Act apply. The consultation undertaken as described in this report is considered to adequately meet these requirements.

7.3. Community Outcomes

There is a safe environment for all.

There is a healthy and sustainable environment for all.

The distinctive character of our takiwā – towns, villages and rural areas is maintained.

7.4. Delegations

The Utilities and Roading Committee has delegated authority to make a decision on this race closure.

Libica Hurley    Owen Davies
Technical Administrator   Drainage Asset Manager
Photo 1 – R8-1 looking south from Quigleys Road where the race runs parallel to the road.

Attachment III
Photo 2 – RB 1 looking West from Quigleys Road
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Attachment iii.

Photo 4 – R8-1 looking East from Quigleys Road
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Attachment III
Photo 6 – R8-1 looking West from Carleton Road at the dry channel.
Water race R8-1, Waimakariri
Archaeological Assessment for Site No. L35/52

Report Prepared for Waimakariri District Council
Author: Megan Hickey
Reviewed by: Kirsa Webb
Submitted:
Water race R8-1, Waimakariri
Archaeological Assessment for Site No. L35/52

Report Prepared by:
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Project Details

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</tr>
<tr>
<td>Client</td>
<td>Waimakariri District Council</td>
</tr>
<tr>
<td>Client Contact</td>
<td>Libica Hurley</td>
</tr>
<tr>
<td>Client Address</td>
<td>215 High Street, Rangiora 7400</td>
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<td>Report Authors</td>
<td>Megan Hickey</td>
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<td>Reviewed By</td>
<td>Kirsa Webb</td>
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<tr>
<td>Report Submitted</td>
<td>Libica Hurley</td>
</tr>
<tr>
<td>Report Submitted To</td>
<td>Libica Hurley</td>
</tr>
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Ownership and Disclaimer

This report has been prepared for Waimakariri District Council in relation to a specific work program at water race R8-1, Waimakariri district. This report and the information contained herein are subject to copyright. Ownership of the primary materials created in the course of the research remains the property of the named researchers and Underground Overground Archaeology Ltd. This report remains the property of Waimakariri District Council and Underground Overground Archaeology Ltd.

The professional advice and opinions contained in this report are those of the consultants, Underground Overground Archaeology Ltd, and do not represent the opinions and policies of any third party. The professional advice and opinions contained in this report do not constitute legal advice.
Executive Summary

Underground Overground Archaeology Ltd (UOA) has been commissioned by Waimakariri District Council to undertake an archaeological assessment of water race R8-1 (recorded as L35/52) as part of the Waimakariri irrigation system. Waimakariri District Council are preparing reports on the system to inform the decision to close sections of the extant irrigation system. Such works would most likely involve closing the race to the flow and/or infilling the race.

The irrigation system has been identified as either part of the first network produced by Marmaduke Dixon in 1891 or the later expansion by the Waimakariri-Ashley Water Supply Board in 1892.

It is recommended that if it is decided to undertake works, Waimakariri District Council should consider closure of the race in the first instance. This work will not require an archaeological authority. If it is decided that infilling of the water race is required, this should be done using imported material and an application should be made to HNZPT for an archaeological authority to modify archaeological sites. Further research is required to determine whether the closure of the water race section R8-1 will affect any other archaeological sites within the vicinity of the race.

The archaeological site discussed within this assessment.

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<td>Water race R8-1</td>
<td>Water race extending from 234 Warren Road, across Quigleys Road and Carleton Road to 1682 Carleton Road. Identified as water race R8-1 on Waimakariri District Council plans.</td>
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1 Introduction

Underground Overground Archaeology Ltd (UOA) has been commissioned by Waimakariri District Council to undertake an archaeological assessment of water race R8-1 (recorded as L35/52) as part of the Waimakariri irrigation system (Figure 1-1 and Figure 1-2). Waimakariri District Council are preparing reports on the system to inform the decision to close sections of the extant irrigation system. Such works would most likely involve closing the race to the flow and/or infilling the race

This archaeological assessment has been commissioned to assess the heritage values of the R8-1 water race section and the impact of potential closure of this section on the values of the wider water race networks. As the water race network has been identified as originally constructed in 19th century, the system meets the definition of an archaeological site and is protected under Heritage New Zealand Pouhere Taonga Act 2014. This archaeological assessment has been prepared in accordance with Heritage New Zealand Pouhere Taonga’s (2006) guidelines on preparing an archaeological assessment.

Figure 1-1. The location of the start (yellow pin) and end (orange pin) of water race R8-1 within the Waimakariri District. Image: Google Maps.
Figure 1-2. The extent of water race R8-1, to the southeast of Oxford. Image: Google Earth.
2 Statutory Requirements

The legislative requirements relating to archaeological sites and artefacts are detailed in the following sections. There are two main pieces of legislation that provide protection for archaeological sites: the Heritage New Zealand Pouhere Taonga Act 2014 and the Resource Management Act 1991. Artefacts are further protected by the Protected Objects Act 1975.

2.1 Heritage New Zealand Pouhere Taonga Act 2014

The Heritage New Zealand Pouhere Taonga Act 2014 came into effect in May 2014, repealing the Historic Places Act 1993. The purpose of this act is to promote identification, protection, preservation, and conservation of New Zealand’s historical and cultural heritage. Heritage New Zealand administers the act and was formerly known as the New Zealand Historic Places Trust (Pouhere Taonga).

Archaeological sites are defined by this act as

(a) any place in New Zealand, including any building or structure (or part of a building or structure), that-

- was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where the wreck occurred before 1900; and

(ii) provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand; and

(b) includes a site for which a declaration is made under section 43(1)

Additionally, Heritage New Zealand has the authority (under section 43(1)) to declare any place to be an archaeological site if the place

(a) was associated with human activity in or after 1900 or is the site of the wreck of any vessel where that wreck occurred in or after 1900; and

(b) provides, or may be able to provide, through investigation by archaeological methods, significant evidence relating to the historical and cultural heritage of New Zealand.

Archaeological sites are protected under Section 42 of the act, and it is an offence to carry out work that may “modify or destroy, or cause to be modified or destroyed, the whole or any part of that site if that person knows, or ought reasonably to have suspected, that the site is an archaeological site”, whether or not the site has been previously recorded. Each individual who knowingly damages or destroys an archaeological site without having the appropriate authority is liable, on conviction, to substantial fines (Section 87).

Any person wishing to carry out work on an archaeological site that may modify or destroy any part of the site, including scientific investigations, must first obtain an authority from Heritage New Zealand (Sections 44(a,c)). The act stipulates that an application must be sought even if the effects on the archaeological site will be no more than minor as per Section 44(b). A significant change from the Historic Places Act (1993) is that “an authority is not required to permit work on a building that is an archaeological site unless the work will result in the demolition of the whole of the building” (Section 42(3)).

Heritage New Zealand will process the authority application within five working days of its receipt to assess if the application is adequate or if further information is required (Section 47(1)(b)). If the application meets the requirements under Section 47(1)(b), it will be accepted and notice of the determination will be provided.
within 20 to 40 working days. Most applications will be determined within 20 working days, but additional time may be required in certain circumstances. If Heritage New Zealand requires its own assessment of the Māori values for the site, the determination will be made within 30 working days. If the application relates to a particularly complex site, the act permits up to 40 days for the determination to be made. Heritage New Zealand will notify the applicant and other affected parties (e.g., the land owner, local authorities, iwi, museums, etc.) of the outcome of the application.

Once an authority has been granted, modification of an archaeological site is only allowed following the expiration of the appeals period or after the Environment Court determines any appeals. Any directly affected party has the right to appeal the decision within 15 working days of receiving notice of the determination. Heritage New Zealand may impose conditions on the authority that must be adhered to by the authority holder (Section 52). Provision exists for a review of the conditions (see Section 53). The authority remains current for a period of up to 35 years, as specified in the authority. If no period is specified in the authority, it remains current for a period of five years from the commencement date.

The authority is tied to the land for which it applies, regardless of changes in the ownership of the land. Prior to any changes of ownership, the land owner must give notice to Heritage New Zealand and advise the succeeding land owner of the authority, its conditions, and terms of consent.

An additional role of Heritage New Zealand is maintaining the New Zealand Heritage list, which is a continuation of the Register of Historic Places, Historic Areas, Wāhi Tapu, and Wāhi Tapu Areas. The list can include archaeological sites. The purpose of the list is to inform members of the public about such places and to assist with their protection under the Resource Management Act 1991.

2.2 Resource Management Act 1991

The Resource Management Act 1991 (RMA) defines historic heritage as those natural and physical resources that contribute to an understanding and appreciation of New Zealand’s history and cultures, and it may include historic sites, structures, places, and areas; archaeological sites; and sites of significance to Māori. It should be noted that this definition does not include the 1900 cut-off date for protected archaeological sites as defined by the Heritage New Zealand Pouhere Taonga Act 2014. Any historic feature that can be shown to have significant values must be considered in any resource consent application.

The heritage provisions of the RMA were strengthened with the Resource Management Amendment Act 2003. The Resource Management Amendment Act 2003 contains a more detailed definition of heritage sites and now considers historic heritage to be a matter of national importance under Section 6. The act requires city, district, and regional councils to manage the use, development, and protection of natural and physical resources in a way that provides for the well-being of today’s communities while safeguarding the options of future generations.

Under the RMA, local authorities are required to develop and operate under a district plan, ensuring that historic heritage is protected. This includes the identification of heritage places on a heritage schedule (or list) and designation of heritage areas or precincts and documents the appropriate regulatory controls. All heritage schedules include, but are not limited to, all items on the New Zealand Heritage List/Rārangi Kōrero. Additional sites of significance to the local authority may also appear on the schedule.
The regulatory controls for historic heritage are specific to each local authority. However, most local authorities will require RMA resource consent for any alterations, additions, demolition, or new construction (near a listed place) with Heritage New Zealand being recognised as an affected party. Repair and maintenance are generally considered permitted activities.

2.3 Protected Objects Act 1975

The Protected Objects Act 1975 was established to provide protection of certain objects, including protected New Zealand objects that form part of the movable cultural heritage of New Zealand. Protected New Zealand objects are defined by Schedule 4 of the act and includes archaeological objects and taonga tūturu. Under Section 11 of the Protected Objects Act 1975, any newly found Māori cultural objects (taonga tūturu) are automatically the property of the Crown if they are older than fifty years and can only be transferred from the Crown to an individual or group of individuals through the Māori Land Court. Anyone who finds a complete or partial taonga tūturu, accidentally or intentionally is required to notify the Ministry of Culture and Heritage within:

(a) 28 days of finding the taonga tūturu; or

(b) 28 days of completing field work undertaken in connection with an archaeological investigation authorised by the Heritage New Zealand.
3 Methodology

A site visit was conducted by Megan Hickey (Underground Overground Archaeology Ltd) on 2 August 2018. A brief photographic record was compiled to provide visual documentation of the current state of the water race section R8-1 and surrounding area. Details of this site visit are discussed in Section 6.

The assessment of archaeological and other values is based on criteria established by Heritage New Zealand (2006):

- The condition of the site(s).
- Is the site(s) unusual, rare or unique, or notable in any other way in comparison to other sites of its kind?
- Does the site(s) possess contextual value? Context or group value arises when the site is part of a group of sites which taken together as a whole, contribute to the wider values of the group or archaeological, historic or cultural landscape. There are potentially two aspects to the assessment of contextual values; the relationship between features within a site, and the wider context of the surroundings.
- Information potential. What current research questions or areas of interest could be addressed with information from the site(s)? Archaeological evaluations should take into account current national and international research interests, not just those of the author.
- Amenity value (e.g. educational, visual, landscape). Does the site(s) have potential for public interpretation and education?
- Does the site(s) have any special cultural associations for any particular communities or groups (e.g., Māori, European, Chinese.)

The overall level of significance was determined based on the evaluation of the criteria listed above; however, it is not possible to fully understand the archaeological significance of unrecorded subsurface sites, features, and materials.

After determining the history of the site(s) and evaluating its archaeological value, UOA assessed the effects of the proposed closure the heritage value of the water race network. Specifically, UOA considered the following matters as outlined by Heritage New Zealand (2006):

- How much of the site(s) will be affected, and to what degree, and what effects this will have on the values of the site(s).
- Whether the proposed work may increase the risk of damage to the site(s) in future. For example, change from farming to residential use may make sites vulnerable to increased pedestrian and vehicular activity.
- Whether a re-design may avoid adverse effects on the site(s). It is recognised that detailed evaluation of alternatives may be beyond the scope of the archaeological assessment, however, some consideration of alternatives should be considered where possible.
- Possible methods to protect sites, and avoid, minimise or mitigate adverse effects should be discussed. These will form the basis of any recommendations in the final section.

Measures of reducing the potential adverse effects on the site(s), management of the archaeological resources, and mitigation of information loss were considered.
4 Historical Background

The R8-1 water race is located in the Waimakariri plains along with a number of other branches of the same system. Four source rivers are located within this area; the Waimakariri, the Eyre, the Cust and the Ashley. The landscape has been farmland in the 19th century and much of it remains the same today. Developments to the land including changes to drainage structures, land parcels and subdivisions and roading has modified the surrounding development in the 20th century.

4.1 Waimakariri irrigation system

The section known as R8-1 has been identified as part of the 19th century water race networks established for irrigation and stock watering. The section was either part of the first network produced by Marmaduke Dixon in 1891 or the later expansion by the Waimakariri-Ashley Water Supply Board in 1892.

Marmaduke Dixon took up Runs 83, 93 and later 84 located between the Waimakariri and Eyre Rivers in 1853. Dixon began experimenting with irrigation in order to improve the marginal manuka scrub that covered much of his land. Dixon, along with his son, also named Marmaduke, surveyed and dug a main water race, 25 foot wide and 2-3 feet deep, from the Waimakariri River, and a series of distributing water races 250 chains (5 km) in total length. This work took about 3 months to complete (Press 29/12/1891:4).

After witnessing the success of Dixon's irrigation scheme the Waimakariri-Ashley Water Supply Board was established in order to irrigate the Waimakariri and Ashley counties and supply water to Rangiora. After much argument about the location of the headworks the main race was surveyed in 1895, with the headworks located at Brown's Rock, approximately 3 km downstream of the Waimakariri River. The main water race was opened with much fanfare in November 1896 (Star 16/11/1896: 3).

No sections of water race R8-1 were visible on available survey plans from the 19th and 20th century. The line appears to be visible on aerial photographs from the 1940s, although the race appears to be indistinct at this time (Figure 4-1, Figure 4-2 and Figure 4-3). It is more visible in later aerial photography. It is possible that the R8-1 section, or parts of it, were constructed in the 20th century. Further research is required to confirm a date of construction for this part of the water race network.
Figure 4-1. Aerial photography of water race R8-1 between Points 1 and 2, as visited during the site visit. See Section 6 for further details. Image: Canterbury Maps, n.d.

Figure 4-2. Aerial photography of water race R8-1 between Points 2, 3 and 4, as visited during the site visit. See Section 6 for further details. Image: Canterbury Maps, n.d.
Figure 4-3. Aerial photography of water race R8-1 between Points 4 and 5, as visited during the site visit. See Section 6 for further details. Image: Canterbury Maps, n.d.
5 Previous Archaeological Investigations

Sections of water races in Waimakariri have been recorded previously. These records are M35/1821 and M35/1846 and are detailed in Table 5-1 below. Both sections have been identified as part of either Marmaduke Dixon’s water race system or the later system extended by the Waimakariri-Ashley Water Supply Board. No archaeological sites are recorded within the immediate vicinity of the water race.

Table 5-1. Summary of recorded sections of the Waimakariri irrigation water race network.

<table>
<thead>
<tr>
<th>ArchSite #</th>
<th>Site type</th>
<th>Location</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>M35/1821</td>
<td>Agricultural/ pastoral</td>
<td>Eyrewell Forest, Canterbury. Runs along the south side of Barrett Road (now closed) between Wrights Road and Normans Road where it diverts to the north and continues eastward as far as Russell Road.</td>
<td>ArchSite 2017</td>
</tr>
<tr>
<td>M35/1846</td>
<td>Agricultural/ pastoral</td>
<td>Along the southern side of Oxford Road between Lehmans Road and the head of North Brook, Rangiora</td>
<td>ArchSite 2017</td>
</tr>
</tbody>
</table>

As a result of this assessment, water race R8-1 has been recorded as archaeological site L35/52.
6  Research results

6.1  Site survey

A site visit was undertaken on 2 August 2018 by Megan Hickey (Underground Overground Archaeology Ltd) to assess the condition of the water race section R8-1. The water race was visited and photographed at a total of five accessible points (Figure 6-1). A sketch of the cross-section of the race was taken at each point and is detailed here to inform the archaeological values of the site.

Figure 6-1. GIS map produced by Waimakariri District Council showing the water race outlined in yellow. The map has been updated with the number of each point visited during the site visit. Image: Waimakariri District Council, 2018.
6.1.1  Point 1

The first point was located on the private property at 234 Warren Road. The western end of the R8-1 section was located here, as a diversion to the south from another water race (Figure 6-2). The first approximately 2 m of this section was diverted beneath a farm road through a concrete pipe. The remainder comprised an open water race running in a roughly straight line. Significant grass and gorse vegetation were observed on either bank and vegetation was also noted in the margins of the water race. The main part of the bank was cut fairly steep on either side. Mud or silt was thought to be the base of the water race, but a harder compacted base was felt near the concrete outlet, indicating that the base had been partly upgraded during previous works. The water flow was low. The race was between 700-900 mm wide from lower bank to lower bank and between 110-210 mm depth in the centre of the race (Figure 6-3 and Figure 6-4). The bank width appeared to be close to the width of the base of the race.

![Figure 6-2. Looking south across the water race from Point 1. Grass and gorse vegetation are visible on the banks.](image-url)
Figure 6-3. Closer view of the water race showing the width and the end of the concrete outlet in the foreground of the image. Looking south. Scale at 100 mm increments.
Figure 6-4. The depth of the water race at the end of the concrete outlet. Looking north. Scale at 100 mm increments.

The general cross-section of the water race at this point is illustrated below (Figure 6-5).

Figure 6-5. The general cross-section of the water race at Point 1. Not to scale.
6.1.2 Point 2

The second point was also located on the private property at 234 Warren Road, at the southeastern extent of the property boundary. A large open drain was located across this area and the water race was piped beneath the drain when it was constructed in the 20th century. A concrete siphon was in place where the water race was piped beneath the drain. The date of the siphon is unclear, but it was likely installed in the mid-20th century, when the drain was constructed. The section of the water race before the siphon appeared to have become silted and naturalised through vegetation overgrowth, lack of maintenance and water overflow. The line of the race was at an irregular width with pooling at the margins and low sloping banks. The water flow was low. It could not be determined if the race was straight in this section as gorse overgrowth obscured the view of the line. The base was mud. The width of the race was up to 1200 mm from the lower portions of the banks and the depth was 140-180 mm. The bank width appeared to be close to the width of the base of the race.
Figure 6-6. Looking south across the concrete siphon. The open drain is visible in the background of the image. Scale at 100 mm increments.
Figure 6-7. Looking northwest at the water race from Point 2. Scale at 100 mm increments.

The general cross-section of the water race at this point is illustrated below (Figure 6-8).
6.1.3 Point 3

The third point was located either side of Quigley’s Road. The water race was piped beneath the road at this point but was visible on either side. It also ran along the roadside to the south. The water race here was shallow and wide with significant vegetation growth on the margins and within the race (Figure 6-9). The race was silted and marshy with indistinct boundaries (Figure 6-10). The banks were very low and the water flow was also low. The width was 2300-2500 mm and the depth was between 90 to 140 mm (Figure 6-11). The bank width appeared to be close to the width of the base of the race.
Figure 6-9. Looking northwest across the water race at Point 3. Scale at 100 mm increments.
Figure 6-10. Looking south across the water race, showing the indistinct margins of the bank. Scale at 100 mm increments.
Figure 6-11. Looking southeast at the water race and concrete culvert. Scale at 100 mm increments.

The general cross-section of the water race at this point is illustrated below (Figure 6-12).

Figure 6-12. The general cross-section of the water race at Point 3. Not to scale.
6.1.4  **Point 4**

The fourth point was located at the end of the section running alongside Quigley’s Road, where the race turns to the southeast through private property. The section running south along the roadway may have been excavated further at some stage from the north end to near the middle of the section as a berm was visible here. It is also possible that this berm is original, although this is less likely as it does not extend the full length of the water race in this area. The race remained wide (up to 1500 mm) until this midpoint. The section after the midpoint to the south end was dry with a mud and vegetation base (Figure 6-13). The width of the base appeared to be similar to the width of the bank. The vegetation on the bank was grass and the east bank appeared to be squared (Figure 6-14). It was narrower than the northern part at 500-1000 mm in width and up to 200 mm in depth. The race remained dry where it turned to the southeast across private property. This portion appeared to be narrow with sharp bank edges.

![Figure 6-13. Looking north across the water race at Point 4. Scale at 100 mm increments.](image)
6.1.5 Point 5

The fifth point was located either side of Carleton Road. The water race was piped beneath the road but was visible on either side. The race continues from here through private property and ends approximately 250 m from the road. The race was dry in this section with an ill-defined bank edge (Figure 6-16 and Figure 6-17). The base was soil and grass with some gravel fill evident at the base. It may have been silted over time. The width was 1400-1800 mm and the approximate depth was 170-250 mm.
Figure 6-16. Looking northwest across the water race at Point 5. Scale at 100 mm increments.

Figure 6-17. The indistinct edge of the bank with gravel fill in the centre of the race. Looking southwest. Scale at 100 mm increments.
The date of construction for the water race and associated structures could not be determined based on observations made during the site visit. No archaeological deposits or artefacts were observed around the visible sections of the water race.

6.2 Summary of archaeology

The site visit demonstrates that the water race has been subject to modifications such as the installation of siphons and culverts, introduced fill on the base at Point 1 and 5, and at least one section which may have been re-excavated at some stage (between Points 3 and 4). In addition, lack of maintenance has caused most of the sections to be overgrown with vegetation and has widened the race in many places. As such the cross-section of the race at the recorded points varies greatly and the original cross-section is unclear. However, it is possible that the original profile of the cut remains beneath the silted base. The race largely remains within its original alignment in the landscape.

No structures associated with the race were identified as pre-1900 forms and no archaeological material or features were observed within the vicinity of the water race.
7  Constraints and Limitations

During the site visit the water race was inaccessible in parts due to vegetation, fencing and private property access. Minimal historical research was undertaken for this assessment at the request of the Waimakariri District Council due to the existing records. Further research may be required to determine whether the closure of the water race section R8-1 will affect any other archaeological sites within the vicinity of the race.
8  Archaeological and Other Values

The values being assessed are those of the sites potentially affected by the works. Values are assessed as low, moderate, or high.

8.1  Archaeological Values

The significance of an archaeological site is determined by, but not limited to, its condition, rarity or uniqueness, contextual value, information potential, amenity value, and cultural association. A brief evaluation of the site is provided in Table 8-1 based on the criteria defined by HNZPT (2006).

Table 8-1. Summary of archaeological value for section R8-1 of the water race L35/52.

<table>
<thead>
<tr>
<th>Value</th>
<th>Criteria</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condition</td>
<td></td>
<td>The condition of the water race varied but was largely in a moderate condition. Many sections were overgrown or had become misshapen over time, likely due to lack of maintenance. This indicates that the original cut may be visible beneath the silted base. Modification were evident especially where sections were piped beneath drains and roads. The general alignment of the water race appears to have remained the same.</td>
</tr>
<tr>
<td>Rarity or Uniqueness</td>
<td>Is the site(s) unusual, rare or unique, or notable in any other way in comparison to other sites of its kind?</td>
<td>Water races are a common feature in the Waimakariri landscape. As such the site is not rare.</td>
</tr>
<tr>
<td>Contextual Value</td>
<td>Does the site(s) possess contextual value? Context or group value arises when the site is part of a group of sites which taken together as a whole, contribute to the wider values of the group or archaeological, historic or cultural landscape. There are potentially two aspects to the assessment of contextual values; firstly, the relationship between features within a site, and secondly, the wider context of the surroundings or setting of the site. For example, a cluster of Māori occupation sites around a river mouth, or a gold mining complex.</td>
<td>The context of the site is medium as the surrounding area has remained farmland since the construction of the water race network in the 19th century. However, activities such as subdivisions of land parcels, changes to farming practices and new roads have impacted the original appearance of the landscape.</td>
</tr>
<tr>
<td>Information Potential</td>
<td>What current research questions or areas of interest could be addressed with information from the site(s)? Archaeological evaluations should take into account current national and international research interests, not just those of the author.</td>
<td>Information potential of the site is moderate. Much of the components of the water race is similar to that observed elsewhere. Information regarding the construction of the races may be obtained through further research and recording, if appropriate.</td>
</tr>
<tr>
<td>Amenity Value</td>
<td>Amenity value (e.g. educational, visual, landscape). Does the site(s) have potential for public interpretation and education?</td>
<td>The site has moderate amenity value as, although much of it is located on private property, it has been identified as part of the 19th century irrigation network which established farming in the Waimakariri district.</td>
</tr>
<tr>
<td>Value</td>
<td>Criteria</td>
<td>Assessment</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Cultural Associations</td>
<td>Does the site(s) have any special cultural associations for any particular communities or groups, e.g. Māori, European, Chinese.</td>
<td>The site may have associations for any descendants of those who constructed the water race, if they can be identified.</td>
</tr>
</tbody>
</table>

The site may have technological values related to 19th century farming practices. Overall, the archaeological value of the site is moderate.
Assessment of Effects

In considering the effects of the proposed works on L35/52, the following questions were taken into account:

- How much of the site will be affected and to what degree? What are the effects on the values of the archaeological sites?
- Will the proposal increase the risk of future damage to the site?
- Would a redesign of the proposal avoid the effects?
- What are the possible methods to avoid, minimize and/or mitigate the adverse effects of the proposal?

8.2 Extent of effects

The potential options for the closure of water race R8-1 will involve either closing the water race and/or infilling the race. If the race is closed to the flow, the race will remain in situ within the landscape but will no longer carry the same historical function. This option will have the least effect on the archaeological values of the site. Water race R8-1 will remain visible in the landscape as part of the wider irrigation system. If the race is infilled, visible signs of the water race will be removed from the landscape and therefore the extent of the water race through this part of the Waimakariri plains, negatively impacting the condition and amenity values of the site.

8.3 Risk of future damage

If the race is closed but not filled in, it is likely that the race will become significantly overgrown with vegetation which will further impact the profile of the race. If the race is infilled, the current cross-section of the water race may be preserved if geo-textile is used.

8.4 Redesign

The water race no longer functions effectively across the area and causes some issues such as flooding. As such some modification (either closure and/or infilling) is required to prevent further damage caused by the race.

8.5 Avoid, minimise and/or mitigate

If it is necessary to close or infill water race R8-1 then it is not possible to avoid affected the archaeological site. Works could be minimised by opting to close the race to minimise the impact on the archaeological site. Infilling will have a greater effect on the archaeological values of the site by removing it from the landscape. If infilling is required, the use of geotextile may preserve the current profile of the race. Infilling of the race could be minimised by the use of historic signage to indicate that this section of the water race was part of the wider irrigation network.

Further recording of the race is unlikely to add further information as the race is well mapped, has been recorded during the site visit for the assessment and additional recording would require earthworks outside of the scope of the potential works.
9 Conclusions and Recommendations

Waimakariri District Council are preparing reports on the system to inform the decision to close sections of the extant irrigation system. The section known as R8-1 has been identified as part of the 19th century water race networks established for irrigation and stock watering. The section was either part of the first network produced by Marmaduke Dixon in 1891 or the later expansion by the Waimakariri-Ashley Water Supply Board in 1892. A site visit revealed that the water race had been heavily affected by later modification and lack of maintenance. As a result of the historical identification and site visit, water race R8-1 has been recorded as archaeological site L35/52. No other identifiable pre-1900 archaeological deposits were observed within the vicinity of the water race. Further research would be required to determine if any other archaeological sites may be encountered within the vicinity of water race R8-1. If unrecorded archaeological features are discovered during the proposed works they are likely to be damaged in order to complete the works. Where possible, damage to features will be minimised by only disturbing those areas necessary to complete the works. It is recommended that any infilling of the race be done with imported material to prevent disturbance of unrecorded archaeological sites within the vicinity of the race.

Overall, the archaeological site recorded as L35/52 has moderate archaeological values, the following recommendations are made:

- It is recommended that if it is decided to undertake works, Waimakariri District Council should consider closure of the race in the first instance. This work will not require an archaeological authority.
- If it is decided that infilling of the water race is required, this should be done using imported material and an application should be made to HNZPT for an archaeological authority to modify archaeological sites.
- Further research is required to determine whether the closure of the water race will affect any other archaeological sites within the vicinity of the race.
- An archaeological authority may be required for future works which will affect this archaeological site.
- If at any stage during the works Māori material is discovered, local iwi should be consulted in the first instance. If Māori material does exist in the area, damage to this should be minimised. Any Māori artefacts will be, prima facie, property of the Crown and will be submitted to the appropriate institutions.
10 References


Appendix A  Site Record Forms of Recorded Archaeological Sites

UOA has identified that the sites listed in Table 10-1 below may be affected by the proposed works, and site record form for the site are provided in the following pages.

Table 10-1. Site affected by the earthworks.

<table>
<thead>
<tr>
<th>NZAA Site Id</th>
<th>Site Name</th>
<th>Site Location</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>L35/52</td>
<td>Water race R8-1</td>
<td>Water race extending from 234 Warren Road, across Quigleys Road and Carleton Road to 1682 Carleton Road. Identified as water race R8-1 on Waimakariri District Council plans.</td>
<td>Water race as part of 19th century Waimakariri irrigation system</td>
</tr>
</tbody>
</table>
NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

ARCHSITE
archaeological site recording scheme

Summary Site Record

NZAA SITE NUMBER: L35/52
SITE TYPE: Agricultural/pastoral
SITE NAME(s):

Record last updated: 14/08/2018

SITE COORDINATES (NZTM) Easting: 1537244 Northing: 5204340 Source: On Screen

IMPERIAL SITE NUMBER: METRIC SITE NUMBER: L35/52

Land Information New Zealand: Cugle Technology

Scale 1:2,500

Finding aids to the location of the site
Water race extending from 234 Warren Road, across Quligayu Road and Carleton Road to 1882 Carleton Road. Identified as water race R8-1 on Waimakariri District Council plans.

Brief description of the site

Condition of the site when last visited
Fair

This report contains a summary of the information about this site held in ArchSite.
For a complete Site Record Form containing all the recorded information, please contact the ArchSite Coordinator.

For further information please contact:
ArchSite Coordinator, PO Box 6337, DUNEDIN
admin@archsite.org.nz

Printed by: meganhickey 14/08/2018
4 March 2013

Waimakariri District Council
Private Bag 1005
Rangiora 7440

Dear Sir/Madam

NOTICE OF RESOURCE CONSENT DECISION(S)

RECORD NO: CRC133965
NAME: Waimakariri District Council

The decision of Environment Canterbury is to grant your application(s) on the terms and conditions specified in the attached resource consent document(s). Your resource consent(s) commences from the date of this letter advising you of the decision. The reasons for the decision are:

1. There are no persons considered to be adversely affected by this proposal.
2. Any adverse effects on the environment as a result of the change in conditions will be minor.

For some activities a report is prepared, with officer recommendations, to provide information to the decision makers. If you require a copy of the report please contact our Customer Services section.

If you do not agree with the consent authority decision, you may object to the whole or any part. Notice of any objection must be in writing and lodged with Environment Canterbury within 15 working days of receipt of this decision.

Alternatively you may appeal to the Environment Court, PO Box 2069, Christchurch. The notice of appeal must be lodged with the Court within 15 working days of receipt of this decision, with a copy forwarded to Environment Canterbury within the same timeframe. If you appeal this decision, the commencement date will then be the date on which the decision on the appeal is determined. If you are in any doubt about the correct procedures, you should seek legal advice.

Environment Canterbury takes every measure to improve both applications and processes, and we appreciate your feedback as an important component in ensuring this occurs. You can complete a consents survey on-line at http://www.ecan.govt.nz/services/resource-consents/pages/surveys.aspx. Alternatively, you can call our Customer Services Section on 0800 EC INFO who will be happy to complete the survey with you.

Charges, set in accordance with section 36 of the Resource Management Act 1991, shall be paid to the Regional Council for the carrying out of its functions in relation to the administration, monitoring and supervision of resource consents and for the carrying out of its functions under section 35 of the Act.

Our Ref: CRC133965
Your Ref: EC114453,EC116063
Contact: Customer Services
Thank you for helping us make Canterbury a great place to live.

For all queries please contact our Customer Services Section by telephoning (03) 353 9007, 0800 ECINFO (0800 324 636), or email acinfo@ecan.govt.nz quoting your CRC number above.

Yours sincerely

[Signature]

CONSENTS PLANNING SECTION

CC Address:

Pattle Delamore Partners Ltd - Christchurch
Attn To: Jeremy Sanson
PO Box 389
Christchurch 8140
RESOURCE CONSENT CRC133965
Pursuant to Section 104 of the Resource Management Act 1991

The Canterbury Regional Council (known as Environment Canterbury)

GRANTS TO: Waimakariri District Council
A WATER PERMIT: To take and use surface water.
CHANGE TAKES EFFECT DATE: 04 Mar 2013
EXPIRY DATE: 28 May 2039
LOCATION: Browns Rock Intake

SUBJECT TO THE FOLLOWING CONDITIONS:

1
   a. Water shall only be taken from the Waimakariri River, at or about map
      reference, Topo50 BW22:260-968 (NZMS 260 L35: 3600-5840), at a rate
      not exceeding 2100 litres per second.
   b. The maximum rate of abstraction shall be either that specified in (a) or
      the rate provided to the Canterbury Regional Council in accordance with
      condition (5) whichever is the lesser.

2
   Water shall only be used for stockwater, domestic irrigation, hydroelectric power
   generation and for the filling of water storage reservoirs and irrigation that is
   authorised by consent CRC000585.9 or any subsequent variation to that consent.

3
   a. Water shall only be taken when a fish screen with a mesh size or slot
      width not exceeding five millimetres is operated and maintained across
      the intake to ensure that fish and fish fry are prevented from passing
      through the intake; and
   b. The fish screen shall be positioned to ensure that there is unimpeded fish
      passage to the Waimakariri River, to avoid the entrapment of fish at the
      point of abstraction; and

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c. The design and maintenance of the fish screen shall ensure that the velocity of flow at and through the screen will prevent fish and fish fry being trapped on the screen; and

d. All practicable measures shall be taken to avoid the stranding of fish in pools and channels; and

e. The consent holder shall within 24 hours of the fish screen becoming damaged or ineffective notify the Canterbury Regional Council of the situation and of any remedial measures including fish salvage to be implemented.

Whenever the "unmodified flow" in the Waimakariri River, as estimated by the Canterbury Regional Council from measurements at the Old Highway Bridge, at or about map reference NZMS260 M35:818-547, for any 24 hour period ending at noon is less than 41,000 litres per second, no water for domestic irrigation, filling water storage reservoirs, irrigation or hydroelectric power generation purposes shall be taken during the next 24 hours, unless a compensatory release of water from a storage reservoir is made into the stockwater race network that matches the quantity of water taken for these purposes.

Whenever the "unmodified flow" in the Waimakariri River, as estimated by the Canterbury Regional Council from measurements at the Old Highway Bridge, at or about map reference NZMS260 M35:818-547, for any 24 hour period ending at noon is above 41,000 litres per second and at or below 63,000 litres per second, the use of water for domestic irrigation filling water storage reservoirs, irrigation or hydroelectric power generation shall be in accordance with all Class A users on the Waimakariri River during the next 24 hours, unless a compensatory release of water from a storage reservoir is made into the stockwater race network that matches the quantity of water taken for these purposes.

"Unmodified flow" is the rate of flow in the river calculated by Environment Canterbury as if there was no taking occurring.

a. The consent holder shall, in consultation with Canterbury Regional Council, appoint a professional irrigation engineer experienced in the design of water race systems, to undertake an audit of the design and operation of the scheme within 12 months of the date of commencement of this consent. The audit shall identify:

   i. Any physical improvements that can be reasonably made to the

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scheme to reduce the loss of water to groundwater; and

ii. Measures which can be implemented in the management of the scheme to minimise the loss of water to groundwater.

b. The audit should consider the whole scheme including, but not limited to, intake structures, gates, race bed sealing, flow rates along races, control mechanisms and the closure of redundant races. A report detailing the results of the audit shall be provided to the Canterbury Regional Council within 18 months of the commencement of this consent.

a. The consent holder shall install a water level measuring device that has an international accreditation, New Zealand or equivalent calibration endorsement, to continuously measure the combined taking of water in terms of this permit and resource consent CRC000585.1, separately from any other take or abstraction point, to within an accuracy of plus or minus five percent;

b. The measuring device shall, as far as is practicable, be installed at a site likely to retain a stable rating. The measuring device shall be installed in accordance with ISO 1100/1-1981 established standards by a competent/qualified person;

c. A site inspection of the measuring site shall be carried out at least once every month;

d. Flows at the site shall be gauged at least once a month for the purpose of rating construction. Velocities shall be measured with a device that has international accreditation, New Zealand or equivalent calibration endorsement, by a competent/qualified person in accordance with ISO 2537-1974 standard. For the case of volumetric flow measurement, standards set out in the "Hydrologist's Field Manual" (Publication No. 15 of the Hydrology Centre, Christchurch, New Zealand) shall be adhered to;

e. Flow records shall be generated from stage (water level) record by the establishment of a rating curve in accordance with ISO Standard ISO 1100/2-1982;

f. In carrying out clause (e), all gauged flows shall lie within plus or minus four percent of the rated flow, unless there is reason for any non-conformity and that reason shall be provided to the Canterbury Regional Council;

g. Water levels shall be recorded by electronic means, at not greater than

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15-minute intervals, in a tamper-proof recording device such as a data-logger, kept for that purpose. The recorded data shall not be changed or deleted by any person, unless 12 months have passed since the date of recording;

h. The measuring and recording devices shall be available for inspection at all times by the Canterbury Regional Council;

i. All data from the recording device described in clause (a), shall be provided to the Canterbury Regional Council on request, and shall be accessible and available for downloading at all times by the Canterbury Regional Council;

j. Within one month of the commencement of this consent, or the installation of a new measuring or recording device, and at five-yearly intervals thereafter, and at any other time when requested by Canterbury Regional Council, the consent holder shall provide a certificate to the Canterbury Regional Council signed by a suitably qualified person certifying the accuracy of the measuring and recording devices installed in accordance with clause (a), and also certifying that data from the recording device described in clause (d) can be readily accessed in accordance with clause (e).

The hours and rate at which water is taken shall be measured to within an accuracy of plus or minus five percent and recorded daily in a log kept for that purpose, and a copy of the records provided to the Canterbury Regional Council before 31 July each year or at any other time as requested in writing by the Canterbury Regional Council.

a. The Canterbury Regional Council may, on any of the last five working days of May and November each year, serve notice of its intention to review the conditions of this consent for the purposes of: dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or

b. reducing the rate of abstraction to correspond to the actual rate of water usage; or

c. requiring implementation of measures to monitor and/or reduce the loss of water to groundwater as a result of the exercise of this consent.

Environment Canterbury is the promotional name of the Canterbury Regional Council
Issued at Christchurch on 4 March 2013

Canterbury Regional Council

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WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO: GOV-26-10-06 RDG-28 / 180921109526

REPORT TO: Oxford Ohoka Community Board

DATE OF MEETING: 3 October 2018

FROM: Joanne McBride, Roading and Transport Manager

SUBJECT: Safety Barrier for Meyer Place Footpath

SIGNED BY: (for Reports to Council, Committees or Boards)

1. SUMMARY

1.1. The purpose of this report is to seek further guidance on the installation of a safety barrier alongside the raised footpath in Meyer Place.

1.2. In 2014 the Oxford Eyre Ward Advisory Board approved a design to modify the footpath and parking in Meyer Place due to the floor level of the new building being constructed higher than the existing footpath. No fence or barrier was included in the design as the drop off was less than the 1m required by the Building Code.

1.3. In 2017 the Oxford Ohoka Community Board approved the installation of a barrier along the full length of the raised footpath with access to the parking area being around the ends of the barrier. Cost estimates were sought and it was agreed to install a stainless steel rail.

1.4. Since this time the adjacent business use has changed and the property owner has installed a set of steps to better accommodate access to the store.

1.5. If the barrier is installed along the full length, the steps would need to be removed and it would not be possible to access the parking area directly from the footpath. This may be considered an inconvenience for some people.

1.6. Quotations have been received for two options:
   - Option One – Install a barrier running straight through with no gap for the steps.
   - Option Two – Install a barrier with a gap for the steps and curve around the handrail to accommodate safe access on the steps. Replace the current steps with a slip resistant step powder coated black.

1.7. The additional cost to accommodate the steps is $1,916.77 including GST.

1.8. Leaving the existing steps and rails in place and fitting a new rail around them would not be desirable as aesthetically it would not be pleasing.

1.9. A “kick rail” will be installed at the base of the rail. This is required to stop wheels from dropping over the edge of the path and to provide guidance for the visually impaired.
Attachments:

i. Report to Oxford Ohoka Community Board approving the installation of a Barrier (Doc 170117003204)

ii. Photo of footpath (Doc 180921109530)

2. RECOMMENDATION

THAT the Oxford Ohoka Community Board:

(a) Receives report № 180921109526;

(b) Approves the installation of a barrier/fence along the raised footpath on the west side of Meyer Place including steps and associated handrail with steel kick rail with an additional cost to be advised;

(c) Circulates this report to the Utilities and Roading Committee.

3. BACKGROUND

3.1. When the new building was being built on the corner of Main Street and Meyer Place in Oxford in 2014 the building owner decided to install doorways on the Meyer Place frontage after the building was partially constructed. As the building floor level was much higher than the footpath level the option to raise the footpath level was agreed to. This was paid for by the building owner.

3.2. The footpath was raised approximately 300mm which resulted in a drop off to the road level of about 400mm. The design did not include a barrier/fence along the path as the drop off was less than 1m. The Building Code was used as a guide as to whether a barrier/fence was required and the Building Code requires a barrier to be provided where people could fall 1 metre or more. As the fall was less than 1 metre a barrier was not included in the design.

3.3. Since the footpath has been constructed there have been some complaints about the potential safety risk of the raised footpath and the drop off. It is noted that staff are not aware of any incidents of people falling since the path was constructed.

4. ISSUES AND OPTIONS

4.1. The Board was presented with two options in 2017, being that it could agree to install a barrier/fence or it could leave the path as it is without a barrier/fence.

4.2. It was agreed to install a stainless steel barrier and the cost was estimated to be $7,600 excluding GST.

4.3. The design for the safety barrier has been updated to include a “kick rail” at the base of the rail. This was not included in the original estimate however is required to stop wheels from dropping over the edge of the path and to provide guidance for the visually impaired.

4.4. A formal quotation for the barrier has now been received.

4.5. The Management Team has reviewed this report and it supports the recommendations.
5. **THE COMMUNITY VIEWS**

5.1. **Groups and Organisations**

5.2. The Waimakariri Access Group have been consulted and have suggested a barrier is installed.

5.3. The adjacent property owner has requested that steps be retained to allow direct access.

5.4. **Wider Community**

5.5. The views of the wider community have not been sought.

6. **IMPLICATIONS AND RISKS**

6.1. **Financial Implications**

6.2. As the steps were installed by the building owner then the Council could request the building owner to pay the extra over cost for accommodating the steps into the design. This would be at a cost of $1,916.77 including GST. As previously noted, the Building Code does not require a barrier for a raised path of this height.

6.3. The safety barrier will be funded from the footpath maintenance budget

6.4. **Community Implications**

6.5. None

6.6. **Risk Management**

6.7. Not applicable

6.8. **Health and Safety**

6.9. The barrier will be installed through the Road Maintenance Contract. Sicon are SiteWise registered.

7. **CONTEXT**

7.1. **Policy**

This matter is not a matter of significance in terms of the Council’s Significance Policy.

7.2. **Community Outcomes**

Businesses in the District are diverse, adaptable and growing

There is a safe environment for all

Transport is accessible, convenient, reliable, affordable and sustainable
1. **SUMMARY**

1.1. The purpose of this report is to seek the Board’s decision on whether to install a safety barrier alongside the raised footpath in Meyer Place.

1.2. In 2014 the Oxford Eyre Ward Advisory Board approved a design to modify the footpath and parking in Meyer Place due to the floor level of the new building being constructed higher than the existing footpath. This design raised the footpath to match the new floor level and this resulted in a drop off of about 400mm to the adjacent road surface. No fence or barrier was included in the design as the drop off is less than the 1m required by the Building Code.

1.3. Since the footpath has been constructed there have been some complaints about the potential safety risk of the raised footpath and the drop off.

1.4. The Board could consider the option of installing a safety barrier/fence alongside the path or it could leave the path without a safety barrier/fence.

1.5. If a fence/barrier was installed it would not be possible to step from the parking area directly onto the footpath and this might be considered an inconvenience for some people.

1.6. From a safety point of view this drop off is not considered a serious hazard as it is less than the 1m height where a barrier is required under the Building Code. While there is the potential for someone to trip and fall this risk exists in many other areas already.

1.7. Staff are of the view that if the Board would like a barrier installed then a barrier can be installed. The cost is modest and funding could be found from the footpath maintenance budget.

**Attachments:**

i. Report to Oxford Eyre Ward Advisory Board approving the footpath (Doc 140903094825)

ii. Photo of footpath (Doc 170131008616)
2. **RECOMMENDATION**

THAT the Oxford Ohoka Community Board:

(a) **Receives** report N° 170117003204

(b) **Approves** the installation of a barrier/fence alongside the raised footpath on the west side of Meyer Place.

**OR**

(c) **Agrees** that no barrier/fence is installed alongside the raised footpath on the west side of Meyer Place.

(d) **Circulates** this report to the Utilities and Roading Committee.

3. **ISSUES AND OPTIONS**

3.1. When the new building was being built on the corner of Main Street and Meyer Place in Oxford in 2014 the building owner decided to install doorways on the Meyer Place frontage after the building was partially constructed. As the building floor level was much higher than the footpath level the option to raise the footpath level was agreed to. This was paid for by the building owner.

3.2. The footpath was raised approximately 300mm which resulted in a drop off to the road level of about 400mm. The design did not include a barrier/fence along the path as the drop off was less than 1m. The Building Code was used as a guide as to whether a barrier/fence was required and the Building Code requires a barrier to be provided where people could fall 1 metre or more. As the fall was less than 1 metre a barrier was not included in the design.

3.3. Clause F4.3.1 of the Building Code states the following.

> “F4.3.1 Where people could fall 1 metre or more from an opening in the external envelope or floor of a building, or from a sudden change of level within or associated with a building, a barrier shall be provided.”

3.4. Since the footpath has been constructed there have been some complaints about the potential safety risk of the raised footpath and the drop off. It is noted that staff are not aware of any incidents of people falling since the path was constructed.

3.5. The Board has two options open to it. It could agree to install a barrier/fence or it could leave the path as it is without a barrier/fence.

3.6. **Option assessment**

<table>
<thead>
<tr>
<th><strong>Option 1 – Install a barrier/fence alongside the path</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
</tr>
<tr>
<td>Prevents a potential fall if someone wanders off the path.</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Funding would come from existing budgets so other work would be deferred.

Option 2 – Leave path as it is and do not install a barrier/fence.

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>People who park alongside the path can step directly onto the path if they wish.</td>
<td>If someone does fall then it may result in an injury and the Council is likely to be criticised considering it was made aware of the problem.</td>
</tr>
</tbody>
</table>

3.7. The Management Team has reviewed this report and it supports the recommendations.

4. **THE COMMUNITY VIEWS**

4.1. The views of the wider community have not been sought on whether a barrier/fence should be installed. This report is in response to feedback from the Waimakariri Access Group suggesting a barrier is installed and from Community Board members.

5. **FINANCIAL IMPLICATIONS AND RISK**

5.1. The cost of installing a barrier/fence along the Meyer Place footpath is estimated to be $5,000.

5.2. As this issue was created by the building owner then the Council could request the building owner to pay for the fence. However as the Building Code does not require a barrier then the property owner is unlikely to agree to pay.

5.3. The $5,000 could be funded from the footpath maintenance budget.

6. **CONTEXT**

6.1. **Policy**

This matter is not a matter of significance in terms of the Council’s Significance Policy.

6.2. **Community Outcomes**

Businesses in the District are diverse, adaptable and growing
There is a safe environment for all
Transport is accessible, convenient, reliable, affordable and sustainable

Ken Stevenson
Roading Manager
1. **SUMMARY**

1.1. The purpose of this report is to obtain the Boards approval to modify the footpath and parking in Meyer Place as a result of the new building that is being constructed on the corner of Main Street and Meyer Place.

1.2. The floor level of the new building is higher than the existing footpath in Meyer Place and as there are doorways fronting onto Meyer Place the footpath will have to be raised to match the new door levels.

1.3. Unfortunately the building owner did not raise the issue of the level difference with the Council Roading staff until after the foundations and floor had been built and the doors installed. The owner is now saying he cannot modify his foundation to provide a step or ramp within his building to match the existing path level and the only option is to raise the path level.

1.4. In order to raise the footpath a low retaining wall will have to be constructed along the kerb line. A low retaining wall will cause issues with parking as the wall will mean car doors won’t be able to open and people will not be able to directly access the footpath without negotiating a high step onto the raised footpath.

1.5. Options to deal with these issues have been considered and discussed with the building owner. The options are shown on the attached plans. The recommended option is to install a low retaining wall along the kerb line with steps half way along and to move the parking out 1.5m from the kerb to provide a buffer for the car doors to open and for people to walk to the steps or to the end of the raised path.

1.6. Generally the costs to modify the footpath and parking will be met by the building owner except that Council staff have agreed to pay for the new footpath sealing as it is likely the existing footpath would require resealing in the near future in any case.

Attachments:

i. Footpath and parking options (Doc 140909097160)
2. **RECOMMENDATION**

THAT the Oxford Eyre Ward Advisory Board:

(a) **Receives** report No 140903094825

(b) **Approves** the proposal to modify the footpath and parking in Meyer Place on the west side as shown as Option 1 on the attached plan (Doc 140909097160)

(c) **Notes** that all costs associated with the construction of the work except for the footpath surfacing will be met by the building owner

(d) **Circulates** this report to the Utilities and Roading Committee.

3. **ISSUES AND OPTIONS**

3.1. The new building on the corner of Meyer Place and Main Street is nearing completion and the floor level along the Meyer Place frontage is higher than the footpath level. As doors open to this footpath this level difference needs to be managed. Unfortunately the building design did not take the level difference into account and the building owner did not raise the issue with Council Roading staff until the building foundation and floor was constructed and the doors were in place.

3.2. There are a number of options that are available to deal with this issue. They are:-

Option 1 – Install a low retaining wall along the kerb line and raise the footpath and move the existing parallel parking 1.5m away from the kerb to allow car doors to open and to provide for pedestrian access. Recommended option.

Option 2 – Install a low retaining wall along the kerb line and raise the footpath and as in option 1 but install angle parking with wheel stops.

Option 3 – Shift the kerb and channel away from the building to create a planting strip in front of the retaining wall and install angle parking with a wider kerb build out at Main Street to protect the angle parking.

Option 4 – Require the building owner to modify the building so the doorways have steps or ramps within the building to match the existing footpath level

3.3. **Option assessment**

Option 1 – Install low retaining wall and move the parallel parking

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest cost option and building owner agrees with this option</td>
<td>Cars may still park close to the kerb line and not be able to open their car doors</td>
</tr>
<tr>
<td>Car passengers will not be able to get out of the car and step directly onto the footpath</td>
<td>Low retaining wall might be a trip or fall hazard although the wall is only 300mm high and steps are proposed</td>
</tr>
</tbody>
</table>
Steps over the kerb will make channel cleaning more difficult

Increased cost to replace kerb and channel in the future

Option 2 – Install low retaining wall and install angle parking

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low cost option</td>
<td>The angle parking will not be ‘protected’ from the existing kerb build out at Main Street.</td>
</tr>
<tr>
<td>Angle parking will mean car doors don’t open against the retaining wall</td>
<td>The angle parking will need wheel stops to prevent cars hitting the retaining wall</td>
</tr>
<tr>
<td></td>
<td>Steps over the kerb and the wheel stops will make channel cleaning more difficult</td>
</tr>
<tr>
<td></td>
<td>Low retaining wall might be a trip or fall hazard although the wall is only 300mm high and steps are proposed</td>
</tr>
<tr>
<td></td>
<td>Increased cost to replace kerb and channel in the future</td>
</tr>
</tbody>
</table>

Option 3 – Remove and replace kerb and channel to create a landscape strip and protected angle parking

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunity to provide some landscaping to soften the impact of the retaining wall</td>
<td>Cars will overhang the planting so it may not be effective and may be difficult to maintain</td>
</tr>
<tr>
<td>Angle parking will mean car doors don’t open against the retaining wall</td>
<td>Expensive and the building owner is not prepared to pay for this option</td>
</tr>
<tr>
<td>Angle parking protected by kerb build out, and separate wheel stops will not be required</td>
<td>Low retaining wall might be a trip or fall hazard although the wall is only 300mm high and steps are proposed</td>
</tr>
<tr>
<td>The steps can be placed between the wall and the kerb so they won’t interfere with channel cleaning</td>
<td></td>
</tr>
</tbody>
</table>
Option 4 – require building owner to modify building

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>No cost to the Council and existing footpath levels and parking arrangement remains</td>
<td>Building owner indicates this is not possible</td>
</tr>
<tr>
<td>No retaining wall so no trip or fall hazard</td>
<td>Expensive (to the property owner)</td>
</tr>
</tbody>
</table>

3.4. The Management Team has reviewed this report and it supports the recommendations.

4. THE COMMUNITY VIEWS

4.1. This issue has only been discussed with the property owner and the views of the wider community have not been sought.

5. FINANCIAL IMPLICATIONS AND RISK

5.1. All costs to construct the retaining wall and steps, to re level the footpath and to remark the car parking spaces will be met by the property owner.

5.2. The cost of sealing the new footpath will be met by the Council from the footpath resurfacing budget on the basis the existing surface was due for resurfacing in any case.

5.3. The estimated cost of each option is as follows. The estimated cost of the footpath sealing is $2,200 and that is included in the estimate below.
   - Option 1 - $7,500
   - Option 2 - $8,000
   - Option 3 - $13,500

6. CONTEXT

6.1. Policy

This matter is not a matter of significance in terms of the Council’s Significance Policy.

6.2. Community Outcomes

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