
SECTION 87F REPORT OF HANNAH GOSLIN FOR OTAGO REGIONAL COUNCIL

QUEENSTOWN LAKES DISTRICT COUNCIL (RM25.206 and RM25.177)

Dated: 2 December 2025

Section 87F Report of Hannah Goslin – Otago Regional Council 2 December 2025

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Applicant Queenstown Lakes District Council

Location Shotover Wastewater Treatment Plant on the true right bank of the Shotover River, approximately 1.25 km south-southeast of the intersection of Tuckers Road and State Highway 6, having the legal description Lot 4 Deposited Plan 421841 and Lot 2 Deposited Plan 422388.

Subject Report under section 87F Resource Management Act 1991 on the applications to discharge treated wastewater, divert water and undertake associated activities

Consents Sought:

RM Number	Description
RM25.206.01	Discharge permit to discharge treated wastewater to the Shotover River/Kimiākau
RM25.206.02	Land use consent to construct a rip rap outfall structure in the bed of the Shotover River/Kimiākau for the purpose of discharging treated wastewater
RM25.206.03	Discharge permit to discharge contaminants into air associated with the discharge of treated wastewater ¹
RM25.177.01	Water permit to divert water within the bed of the Shotover River/Kimiākau to ensure the discharge of treated wastewater is always to flowing water
RM25.177.02	Land use consent to disturb the bed of the Shotover River/Kimiākau for the purpose of creating and maintaining a diversion channel
RM25.177.03	Discharge permit to discharge remobilised sediment from the Shotover River/Kimiākau when constructing and maintaining the diversion channel

Introduction

- Queenstown Lakes District Council (the **Applicant**) applies for resource consent under the Resource Management Act 1991 (the **RMA**) to:
 - Authorise the discharge of treated wastewater from the Shotover Wastewater Treatment Plan (WWTP) to the Shotover River/Kimiākau and undertake associated activities (application RM25.206); and
 - Undertake riverbed disturbance works within the Shotover River/Kimiākau, to discharge remobilised bed sediment and to divert water to maintain a flowing channel for the treated wastewater discharge (RM25.177).
- The WWTP is located on land owned by the Applicant. The discharge channel crosses land administered by the Department of Conservation before being discharged to the Shotover River/Kimiākau via an outfall.

¹ This application was originally sought as a condition variation to an existing resource consent (RM13.215.01) during the Section 88 check for completeness it was determined that the condition variation sought was beyond the scope of the original application and would be progressed as a new discharge permit to discharge contaminants into air.

3. The Applicant has been operating the WWTP since the 1970's. Prior to 2017, wastewater treatment at the WWTP consisted of an aerated septage treatment lagoon and treated wastewater disposed directly to water. The wastewater treatment plant has been successively upgraded over time. The latest upgrades have been completed since the lodging of the current application. Until 2019, the QLDC discharged treated wastewater by an open channel to the Shotover River/Kimiākau.
4. From 2019 to March 2025, the Applicant disposed of treated wastewater to land via a Dose and Drain disposal field (**DAD**). However, from 2021 treated wastewater (and occasionally under-treated wastewater) ponded on the DAD, leading to unconsented discharges from the DAD.
5. The Applicant commenced discharging wastewater through the historic channel to the Shotover River/Kimiākau on 31 March 2025 because:
 - a. The Applicant says it was concerned by an increased waterfowl presence at the site as a result of the ponding.
 - b. The DAD was located approximately 375 metres north of the runway at the Queenstown Airport and the Applicant says it was concerned that the increased presence of waterfowl created an increased risk of bird strike.
6. The Applicant says it undertook emergency works under Section 330 of the RMA (to discharge treated wastewater through the historic discharge channel) in accordance with Section 330 to address the risks to aircraft caused by the presence of waterfowl.
7. The Applicant has discharged treated wastewater continuously to the Shotover River/Kimiākau since 31 March 2025 and applies for consent for that activity (RM25.206).
8. To ensure that treated wastewater discharged into the Shotover River/Kimiākau is adequately diluted, the Applicant applies to construct and maintain a diversion channel in the Shotover River/Kimiākau and divert water into that channel (RM25.177).
9. After the application to undertake riverbed disturbance works (RM25.177) was lodged, the ORC determined under Section 91 RMA that to better understand the application, it was appropriate that the application for consent to discharge wastewater (RM25.206) be made before proceeding further. The Otago Regional Council (**ORC**) considered that both RM25.177 and RM25.206 should proceed through the resource consent process together, and the ORC has publicly notified both consent applications.
10. This report is prepared in accordance with Section 87F of the RMA for the purpose of assisting the Environment Court in determining whether the resource consent applications lodged by the Applicant should be granted. In accordance with Section 87F(4), this report:
 - a. addresses the issues set out in Sections 104 to 112 of the RMA to the extent that they are relevant to the resource consent applications lodged with the ORC;
 - b. suggests conditions that should be imposed if the Environment Court grants the application; and
 - c. provides a summary of submissions received.

Qualifications and Experience

11. I graduated from the University of Canterbury in 2013 with a Bachelor of Science in Geography. I am an Associate member of the New Zealand Planning Institute and a member of the Resource Management Law Association. I am also an accredited Hearings Commissioner under the Ministry for the Environment's *Making Good Decisions* Programme.

12. I joined Incite in 2017, where I am currently employed as an Associate – Resource Management Consultant. I have over 12 years' experience in resource management, primarily in regional council resource consenting and policy development relating to discharges to land, air and water. I have presented planning evidence at a number of resource consent and plan hearings.
13. My involvement with this application commenced in May 2024 when I was engaged by the ORC to process RM25.177.

Code of Conduct

14. I have read the Code of Conduct for expert witnesses contained in the Environment Court's Practice Note 2023 and agree to comply with it. This report has been prepared in accordance with that Code. The data, information, facts and assumptions I have considered in forming my opinions are set out in this report.
15. Unless I state otherwise, this report is within the scope of my expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Scope of this Report

16. Preparing this report, I have taken into account:
 - a. Relevant to RM25.177:
 - i. Form 1 Application for resource consent signed by Claire Perkins of Landpro on behalf of the Applicant dated 10 April 2025;
 - ii. Form 3 Application to divert water and Form 7 Application to discharge water or contaminants to water;
 - iii. Resource consent application and supporting information report signed by Claire Perkins of Landpro on behalf of the Applicant dated 10 April 2025; and
 - iv. Appendix A: Water quality baseline snapshot for Queenstown Wastewater Treatment Plan and Surrounds.
 - b. Relevant to RM25.206:
 - i. Form 1 Application for resource consent signed by Claire Perkins of Landpro on behalf of the Applicant dated 30 April 2025;
 - ii. Form 7 Application to discharge water or contaminants to water; Form 10A Application for land use consent – structures in, on or over the bed of a waterbody and Form 22 Change (variation) or cancellation of consent conditions;
 - iii. Shotover WWTP Surface water and Groundwater Assessment, Queenstown Lakes District Council prepared by Dusk Mains of GHD dated 30 April 2025 (labelled as Appendix G);
 - iv. Resource consent application to Otago Regional Council for Discharge of Treated Effluent to Kimiākau/Shotover River prepared by Claire Perkins of Landpro dated 1 May 2025;
 - v. Appendix A: Bird survey report prepared by Dawn Palmer of Natural Solutions for Nature Ltd dated 30 April 2025;
 - vi. Appendix B: Letter titled 'Shotover Wastewater Treatment Plant- Urgent Action Required' signed by Lauren Rapley and Siobhan McDonald of Russell McVeagh on behalf of Queenstown Airport Corporation Limited;

- vii. Appendix C: Shotover Wastewater Treatment Plan Treated Wastewater Discharges – Emergency Works Justification dated 27 March 2025;
 - viii. Appendix D: Copies of Current Consents;
 - ix. Appendix E: Graphs of WWTP effluent sampling results;
 - x. Appendix F: Shotover WWTP Draft Environmental Monitoring Plan – Short term consent prepared by Dusk Mains of GHD dated 30 April 2025; and
 - xi. Appendix H: Policy Assessment.
- c. Relevant to both RM25.177 and RM25.206:
- i. Further information response letter signed by Claire Perkins of Landpro on behalf of the Applicant dated 13 August 2025;
 - ii. Appendix A: Water quality report dated 13 August 2025 prepared by Dusk Mains and Anthony Kirk of GHD;
 - iii. Appendix B: River Protection and Diversion report dated 13 August 2025 prepared by Ali Ghavidel, Ian Ho and Anthony Kirk of GHD;
 - iv. Appendix C: Freshwater quality memorandum dated 12 August 2025 prepared by Tanya Cook of Boffa Miskell;
 - v. Appendix D: Draft conditions of consent for discharge;
 - vi. Appendix E: Cultural impact assessments or statement, including Queenstown Lakes District Council Cultural Impact Assessment QLDC Wastewater Treatment Plant Discharge Consent prepared by Te Ao Mārama and Cultural Position Statement endorsed by Aukaha Ltd Wai Māori representatives dated 13 August 2025 and signed by Chris Rosenbrock; and
 - vii. Appendix F: Updated policy Assessment.
- d. Relied on conversations during meetings, emails and phone calls held with the Applicant's representatives;
- e. Relied on knowledge gained during a site visit with the Applicant and representatives and technical advisors;
- f. Considered any relevant issues raised in submissions;
- g. Relied on expert advice from the technical advisors from or engaged on behalf of the ORC (this advice is annexed at Appendix 2 to this report):
- i. Dr Michael Greer, Surface water quality and aquatic ecology of Torlesse Environmental Limited;
 - ii. Mr John Iseli, Air quality of Specialist Environmental Services Limited;
 - iii. Mr Tim Baker, Groundwater and hydrology of SLR Consulting;
 - iv. Dr Jack McConchie, Fluvial geomorphology and river engineering of Landscape Dynamics Ltd;
 - v. Mr Philip Shoebridge, Engineering WSP;
 - vi. Mr Philip Shaw, Avifauna of Avisure; and
 - vii. Ms Shelley Reed, Principal Compliance Specialist of the ORC.
- h. Reviewed Infringement Notices issued by the ORC to the Applicant post 2021 (these are annexed at Appendix 5 of this report).

- i. Reviewed the Enforcement Orders and the decision of the Environment Court dated 9 June 2025 (annexed at Appendix 6 of this report).
 - j. Reviewed the incident report relating to the December 2023 infrastructure failures at the wastewater treatment plant.
17. This report analyses the resource management issues associated with the proposal, to assist and inform the Environment Court as part of the direct referral process. I will not repeat the expert advice received from the technical advisors that I have relied on. Instead, this report summarises their key findings. My assessment, recommendations and suggested conditions are based on the information provided by the Applicant, my review of submissions, and the technical expert advice, all of which are considered in the context of relevant statutory planning documents.
18. The suggestions made and conclusions reached may be revisited following any expert conferencing and following review of evidence of the Applicant, the ORC's advisers and submitters as the process progresses.

Background

Discharge of treated wastewater from the Shotover WWTP (RM25.206)

19. The Applicant commenced discharging wastewater through the historic discharge channel to the Shotover River/Kimiākau on 31 March 2025 and said it did so in reliance on section 330 RMA.
20. Section 330 of the RMA enables emergency works and powers to take preventative or remedial action. In accordance with Section 330A(2) of the RMA, where an activity contravenes any of sections 9, 12, 13, 14 and 15 of the RMA and the adverse effects of the activity continue, then an application shall be made to the consent authority for the necessary resource consents required for the activity within 20 working days of the notification being made to the consent authority that the activity will be occurring. The Applicant applied for consent to regularise the discharge on 1 May 2025.
21. In accordance with Section 330A(3), if the application is made within the 20 working day period, the activity may continue until the application for a resource consent and any appeals have been finally determined.
22. For the assessment undertaken in this report, the ORC does not consider it is necessary to determine whether the exercise of powers under Section 330 was valid.

Emergency works carried out to date

23. The Applicant has provided a summary of the activities associated with what it says were emergency works under Section 330 of the RMA in Section 1.2.1 of the Application. Those activities can be summarised as:
- a. Between 27 and 28 March 2025, the Applicant undertook vegetation clearance of the historic discharge channel within land owned by it. These works were undertaken by two excavators and did not include clearance of vegetation within the final 100 metres of the channel on the land parcel owned by the Department of Conservation.
 - b. The Applicant commenced discharging treated wastewater to the historic discharge channel at 1:45am on 31 March 2025.
 - c. For approximately two days, the Applicant discharged treated wastewater to both the DAD and the discharge channel. The Applicant ceased discharging treated wastewater to the DAD ceased at 5:30pm on 1 April 2025.
24. The ORC observed a colour change in the Shotover River/Kimiākau where treated wastewater was discharged from the discharge channel and into the Shotover

River/Kimiākau. This has since resolved as a result of higher flows in the River and the transition to MLE treatment.

25. The Applicant has discharged treated wastewater to the Shotover River/Kimiākau continuously since 31 March 2025.

Recent Consent History

26. The resource consent background to the WWTP and associated discharges is extensive and complex.
27. Shelley Reed summarised the position before the Applicant began discharging treated wastewater to the Shotover River/Kimiākau on 31 March 2025. Paragraphs [26] to [30] of her Affidavit for the Enforcement Order proceedings set out the recent consent history and are restated below:

- a. *“Historically, the Shotover WWTP treatment process involved using the oxidation pond system, which discharged treated sewage directly into the Shotover River under various consents. According to ORC records and consent recommendation reports, the discharge of treated wastewater into the Shotover River (under consent 2008.240) was supposed to cease by 22 April 2014. Consent 2008.238 was issued on 13 May 2010 by the Environment Court. It appears that the intention was that QLDC would improve the treatment of wastewater and switch to a land-based discharge by 22 April 2014 operating under RM.2008.238.*
- b. *However, in 2013, the QLDC decided to revise the treatment options and the timetable for implementing land disposal. It proposed a three-stage upgrade to transition the [WWTP] with the following indicative stages:*
 - i. *Upgrade the existing WWTP to provide partial wastewater treatment to meet mean effluent quality of 30:30:23:260 (BOD:TSS:TN:E.Coli) to be operational by 28 February 2017 while still discharging to the Shotover river (stage 1);*
 - ii. *Install part of the land disposal system between 2017 and 2022 and have all normal flows discharged into land by 31 December 2022 (stage 2);*
 - iii. *When nitrogen load triggers are reached (modelled to be at about year 2025), implement final WWTP upgrade so that effluent quality meets mean 10:10:10:10 (BOD:TSS:TN:E.Coli) effluent quality stage 3).*
 - iv. *Continue to expand the land disposal system as required to meet flows.*
- c. *To enable the three-stage upgrade, QLDC applied for and was issued several discharge permits for the treatment and disposal of wastewater through to 2044:*
 - i. *RM13.215.01: Replacement of Discharge Permit 2008.239 for air discharge, expiring on 18 March 2044.*
 - ii. *RM13.215.02: To discharge up to 26,049 m³/day into the Shotover River until 28 February 2017, allowing continuation of the discharge to the Shotover River during upgrades.*
 - iii. *RM13.215.01: To discharge up to 29,646m³/day to land from 2017 until 2031 (or 2025) and addresses the progressive shift from discharge water to complete discharge to land from Stage 1 of the upgrade of the WWTP and transitioning to higher quality effluent. Prior to discharge, approximately two thirds of wastewater would be treated by the new MLE treatment process, the remaining portion would be treated via oxidation pond only. All waste waters would undergo UV sterilisation before discharge to a dispersal field.*

- iv. *RM13.215.04: To discharge up to 26,672m³/day into the Shotover River from 2014 until 31 December 2022, facilitating Stage 2 of land disposal system construction. Prior to discharge wastewater would be treated in an oxidation pond.*
 - v. *RM12.237: Variation of conditions for existing Discharge Permit 2008.238 for Stage 3 land discharge of high quality effluent, expiring on 18 March 2044 (and becoming 2008.238.V2)*
 - vi. *Consent 2008.238 addresses the long-term situation (after the complete longer-term Stage 3 upgrade of the WWTP) where all treated wastewater from the WWTP will be discharged to land and considering the projected population increase.*
 - vii. *Consent 2008.238 later became 2008.238.V2 following the previously mentioned RM12.237 variation and has not yet been exercised. Under this consent, 100% of the wastewater stream will be fully treated by the MLE process before undergoing UV sterilisation and being discharged to a dispersal field. This variation was initiated by QLDC as they wanted to change the location and the design of the previously consented disposal system. Changing the design from a Low-Pressure Effluent Distribution (LPED) to a high rate LPED system operated on a dose and drain (DAD) infiltration basis.*
 - viii. *QLDC later upgraded the WWTP by installing MLE treatment process (including clarifier), and surrendered RM13.215.04 on 30th June 2019. This upgrade improved TSS and E.coli levels in the treated wastewater.*
 - d. *RM13.215.03.V2 currently allows QLDC to discharge treated wastewater to land. RM13.215.03.V2 was reissued on 9th May 2017 for the purpose of amending the legal description and map reference varying 6 existing conditions and the addition of new conditions 9, 10, 21, 22, 23. Under RM13.215.03.V2 QLDC can discharge treated wastewater to land via a disposal field in accordance with the operations and maintenance manual."*
28. Prior to 31 March 2025, the Applicant was discharging treated wastewater to the DAD and held RM13.215.03.V2 for that purpose. RM13.215.03.V2 enables the discharge of 11,238 cubic metres per day of wastewater (as an annual average) and sets thresholds for nitrogen mass that requires the consent holder to implement a WWTP upgrade process. At the time of drafting this report the third and final stage of the upgrades (referred to by Ms Reed) have been made fully operational.
 29. RM2008.238.V2 is still yet to be exercised and sets more restrictive effluent quality limits than RM13.215.03.V2. RM13.215.03.V2 is required to be surrendered within six months of the WWTP stage 3 upgrade being commissioned.
 30. The third and final stage of upgrading the WWTP is a transition from a traditional Biological and Aerated Pond treatment (oxidation ponds) to an 'Activated Sludge Treatment' (referred to as a Modified Ludzack Ettinger (**MLE**) treatment train) method. The upgrade is to provide for future population and tourism growth through to 2048.
 31. At the date application RM25.206 was lodged, approximately 80% of the wastewater was receiving treatment through the MLE treatment train, with the balance of flows still being treated in the oxidation ponds. Stage 3 upgrades to the WWTP have been made fully operational earlier than originally programmed. Ms Perkins, the Applicant's planner, orally advised me on 19 September 2025 that wastewater is no longer treated

by oxidation pond and all wastewater is now treated in an MLE followed by two secondary clarifiers.²

32. The application states that in October 2024 the Applicant commenced work to develop a new long-term solution to dispose of the wastewater treated at the WWTP. The Applicant has now commenced optioneering for a preferred long term disposal solution.
33. An Enforcement Order dated 9 June 2024 sets out milestones for the long term disposal solution and is annexed to this report as Appendix 6. Order 1.19 requires an application for resource consent for the new disposal system to be lodged by 31 May 2026 with the engineering design completed by 31 December 2027. The new disposal system must be developed and implemented by 31 December 2030.

To undertake riverbed disturbance works and divert water (RM25.177)

34. The Shotover River/Kimiākau has naturally aggregated at the location of the WWTP outfall resulting in the main braid of the River shifting towards the true left of the braidplain extent.
35. The Applicant seeks the necessary resource consents to undertake works in the bed of the Shotover River/Kimiākau to establish a diversion channel, to divert flow within the bed of the Shotover River/Kimiākau and to discharge remobilised sediment from the bed of the Shotover River/Kimiākau. The Applicant seeks the consents to ensure a flowing braid past the WWTP outfall is maintained for the purpose of improving mixing and ensure adequate dilution of the discharge. This is a new activity and is yet to occur.

Compliance with Current Consents

36. Compliance monitoring at the WWTP is ongoing. Appendix 5 contains copies of infringement notices issued by the ORC since February 2021.
37. Below is a summary of the compliance history over the past five years and ongoing issues relevant to resource consents held by the Applicant:
 - a. Since February 2021, the Applicant has faced compliance issues with RM13.215.03.V2, which was held to discharge treated wastewater to the DAD. The DAD's design, elevated groundwater levels and sludge binding caused surface ponding of treated (or occasionally undertreated) wastewater and the discharge of treated (or occasionally undertreated) effluent beyond the consented DAD area.
 - b. As a result of these non-compliances, ORC has issued the Applicant with two abatement notices and a total of 10 infringement notices (including five infringement notices since January 2025).
 - c. Following the DAD's initial failure, the DAD has continued to deteriorate. Biological growth has occurred inside the Disposal Field cells, reducing the ability of treated wastewater to discharge from the cells into the surrounding gravels.
38. On 27 May 2021, ORC issued the first abatement notice and an infringement notice in response to the ponding of treated wastewater on and outside the DAD and the discharge of treated wastewater from the DAD. This abatement notice initially required the Applicant to cease discharging treated wastewater to land without complying with conditions (15) and (20) of consent RM13.215.03.V2. Condition 20 requires no ponding or run off of treated wastewater. The abatement notice also required the Applicant to exclude the public from areas which may be contaminated with treated wastewater.

² A tank for settling solids

- a. The Applicant applied for, and ORC granted, multiple extensions to the compliance due date, eventually expiring 30 November 2023.
 - b. Ponding outside the consented area was resolved, but minor ponding of treated wastewater on the DAD persisted until December 2023.
39. In December 2023, infrastructure failures at the Shotover WWTP led to issues with wastewater quality and odour problems. The ORC issued an infringement notice for discharging odorous compounds to air when it was not expressly allowed.
40. During these operational plant failures, the ORC Enforcement Officers observed undertreated wastewater discharging from the DAD and into the Shotover Delta, with a high likelihood of entering the Kawarau River.
 - a. The ORC issued a second abatement notice in March 2024 requiring (among other things) that the applicant cease discharging without complying with the discharge quality conditions of RM13.215.03.V2, and cease discharging from the DAD.
 - b. In August 2024, operational issues at the Shotover WWTP led to elevated nitrogen levels and solids carryover in the treated wastewater, decreasing infiltration capacity within the gravels.
 - c. The ORC issued the Applicant with 9 infringement notices in late 2024 and January 2025 for breaches of the second abatement notice.
41. Treated wastewater continued to discharge over land from the DAD³. The Applicant had (unlawfully) constructed a bund around the DAD to try to prevent run off of wastewater, which had ponded on the surface of the DAD. In September 2024, the Applicant installed a discharge pipe in the bund in an effort to control wastewater discharge from the DAD and prevent failure of the bund. However, treated wastewater continued to pond on the DAD and discharge from the DAD to the Shotover delta.
 - a. On 22 January 2025, the ORC made an application to the Environment Court for an Enforcement Order to address compliance issues. The enforcement orders sought related to:
 - i. The performance of the WWTP, including avoiding future treatment failures and remedying and/or mitigating the effects of any such failures; and
 - ii. The discharge of treated wastewater beyond the consented DAD.
 - b. In March 2025, the Applicant, the ORC and Queenstown Airport attended Environment Court assisted mediation.
 - c. On 10 June 2025 the Environment Court made Enforcement Orders by consent (annexed at Appendix 6) Relevantly, the orders required the Applicant to develop and implement both a short term and a long term solution to address the failing DAD and resource consent compliance issues (orders 1.13 and 1.19).
 - d. Both solutions must be designed, developed and implemented so that they do not *“attract any birds that are hazardous to aircraft or may endanger aircraft operations. The bird species that have been observed at the airport and which may be hazardous to aircraft are gull, oyster catcher, hawk, spur-wing, plover and duck.”*
42. These applications seek consent for the Applicant’s proposed short term solution.
43. Since 3 November 2025 the quality of discharged wastewater has complied with the annual mean limits for all parameters specified in RM13.215.03.V2. However

³ The flow was not always continuous and did cease for at least one period.

exceedances of 95th percentile limits for BOD₅ and TSS as set out in RM13.215.03.V2 have been measured.

Description of Proposed Activity

44. The application made under RM25.206 is to authorise the discharge of treated wastewater from the Shotover WWTP to the Shotover River/Kimiākau. The WWTP currently services the communities in the Wakatipu Basin of Queenstown, Arthurs Point, Frankton, Kelvin Heights/Willow Place, Quail Rise, Shotover Country, Lake Hayes and Arrowtown. In the short to medium term, the WWTP will receive additional wastewater flows will from Jacks Point Village, Hanley Farms, Ladies Mile and an extension of the Quail Rise residential development areas.⁴
45. The application made under RM25.177 is to undertake riverbed disturbance works within the bed of the Shotover River/Kimiākau, to discharge remobilised bed sediment and to divert water to maintain a flowing channel for the treated wastewater discharge.
46. After application RM25.177 was made, the ORC determined under section 91 of the RMA that to better understand application RM25.177, it was appropriate that the application for consent to discharge wastewater (RM25.206) be made before proceeding further. The ORC considered that both RM25.177 and RM25.206 should proceed through the resource consent process together.
47. The Applicant seeks the following resource consents that are considered in this section 87F report:

RM Number	Description
RM25.206.01	Discharge permit to discharge treated wastewater to the Shotover River/Kimiākau
RM25.206.02	Land use consent to construct a rip rap outfall structure in the bed of the Shotover River/Kimiākau
RM25.206.03	Discharge permit to discharge contaminants into air associated with the discharge of treated wastewater ⁵
RM25.177.01	Water permit to divert water within the bed of the Shotover River/Kimiākau to ensure the discharge of treated wastewater is always to flowing water
RM25.177.02	To disturb the bed of the Shotover River/Kimiākau for the purpose of creating and maintaining a diversion channel
RM25.177.03	Discharge permit to discharge remobilised sediment from the Shotover River/Kimiākau when constructing and maintaining the diversion channel

48. The Applicant has provided sets of proposed consent conditions for RM25.206.01 and RM25.177.02. I have provided a description of the proposed consent conditions associated with each of the activities in the sub-sections below.

Relationship between this proposal and existing resource consents held by the Applicant

49. The Applicant currently holds several resource consents to authorise a range of activities in the district. The following are identified as being most relevant to the proposal that is the subject of this report:

⁴ It is understood that additional flows from these areas will occur following the upgrade of the WWTP.

⁵ This application was originally sought as a condition variation to an existing resource consent (RM13.215.01) during the Section 88 check for completeness it was determined that the condition variation sought was beyond the scope of the original application and would be progressed as a new discharge permit to discharge contaminants into air.

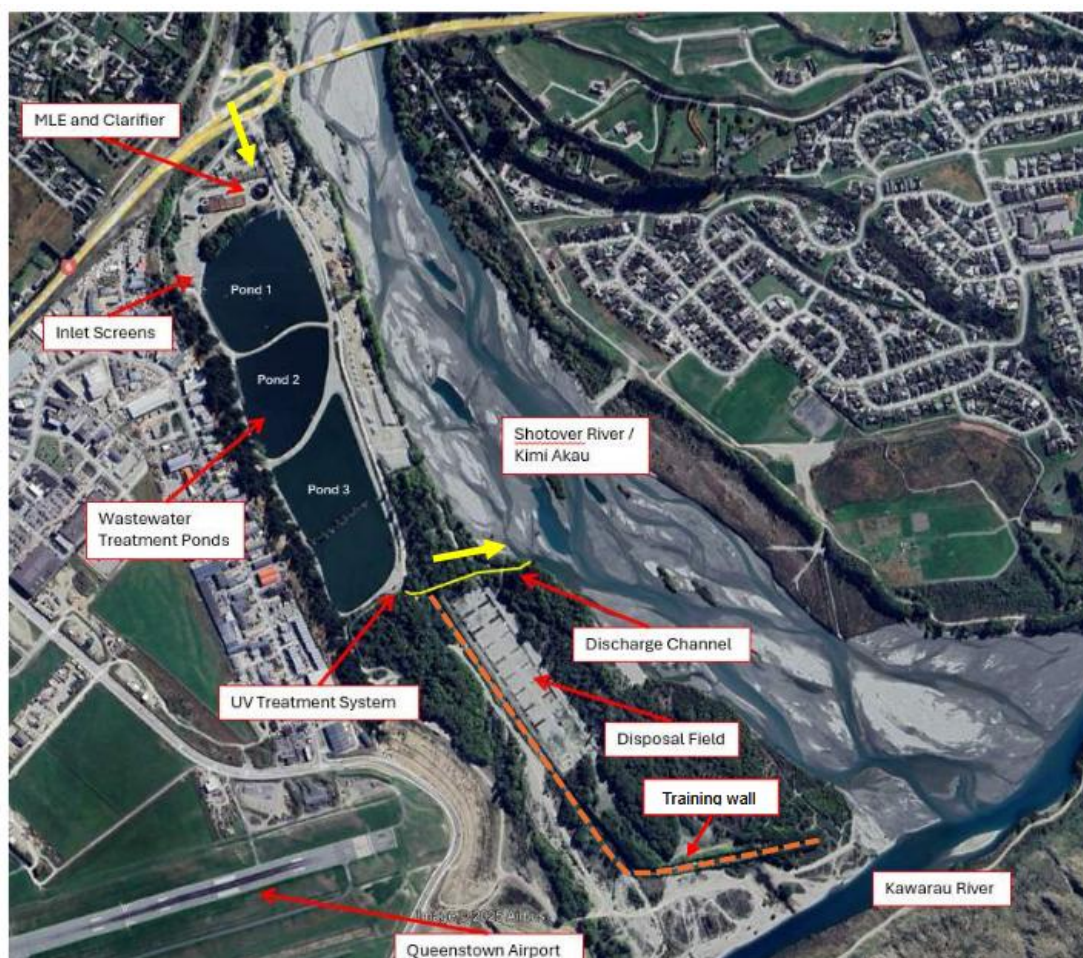
RM Number	Description	Expiry
RM13.215.03.V2	To discharge treated wastewater to land	31/12/2031
RM2008.238.V2	To discharge treated wastewater to land for the purpose of operating the Queenstown Wastewater Treatment and Disposal System ⁶	18/03/2044
RM13.215.01	To discharge contaminants to air for the purpose of operating the Queenstown Wastewater Treatment Plant	18/03/2044

50. The Applicant proposes that if the resource consents sought as part of this proposal are granted, then it will surrender existing RM13.215.03.V2. A condition of resource consent has been proposed to this effect in Appendix D of the Section 92 RFI response. The Applicant proposes to maintain RM2008.238.V2, but not activate this resource consent while the discharge to surface water is occurring under the new resource consent sought under this process.

Description of activities proposed as part of application RM25.206

Location of the treated wastewater discharge (RM25.206)

51. The Shotover WWTP is located on the true right bank of the Shotover River/Kimiākau, downstream of the State Highway 6 bridge and within the Shotover Delta. The site and surrounds is shown in Figure 1:



⁶ At the time of drafting this recommendation report, this resource consent is yet to be exercised.

Figure 1: Site layout of the Shotover WWTP (Imagery from Google Earth, April 2023). Yellow arrows show direction of flow into and out of the treatment process. Source: Application (Page 8) dated 1 May 2025

52. The location and layout of the discharge channel and discharge point into the Shotover River/Kimiākau is shown in Figure 2:



Figure 2: Discharge channel location and layout shown in yellow. Application identifies that the designation boundary is shown in blue. Source: Application (page 19) dated 1 May 2025.

Quantity of treated wastewater discharged (RM25.206)

53. The Applicant proposed to discharge treated wastewater under RM25.206 continuously (24 hours per day 7 days per week) to the Shotover River/Kimiākau for a duration of five years.
54. The Applicant has provided the following information on expected flow rates for the discharge:
- Maximum flow rate of discharge is proposed to be 400L/s;
 - Average Dry Weather Flow (ADF) (also referred to as Annual average daily flow) is proposed to be 16,900m³/day;
 - Peak Dry Weather Flow (PDWF) is proposed to be 19,700m³/day; and
 - Peak Wet Weather Flow (PWWF) is proposed to be 29,100m³/day.
55. Definitions of terms such as 'PDWF' and 'PWWF' are not provided in the application.

Quality of treated wastewater discharge (RM25.206)

56. The Applicant proposes that the discharge of treated wastewater after reasonable mixing (at a distance of 200 metres downstream of the point of discharge into the Shotover River/Kimiākau) shall not give rise to all or any of the follow effects:
- The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials; or
 - Any conspicuous change in the colour or visual clarity; or
 - Rendering of freshwater unsuitable for consumption by farm animals; or
 - Any emission of objectionable odour; or
 - Any significant adverse effects on aquatic life.

Stage 3 upgrades and discharge quality limits – a change to the application since the notification decision

57. Since the ORC determined to notify the consent applications, the Applicant has proposed more stringent discharge quality limits. This is as a result of Stage 3 upgrades at the WWTP being fully operational earlier than originally programmed.
58. In November 2025 (following public notification of the applications subject of this report) the second MLE reactor and clarifier at the WWTP became fully operational (referred to as 'Stage 3 upgrades'). This means that wastewater is no longer treated in the oxidation pond and all wastewater is treated in an MLE followed by two secondary clarifiers. It is proposed that oxidation ponds will be repurposed, with one pond being used for improved stormwater management and another being converted to act as a calamity pond for storage in the event the WWTP goes offline or the plant is at capacity. Modifications to the oxidation ponds do not form part of the applications lodged.
59. At section 2.5.3 of the Application, the Applicant provides an overview of the discharge quality at the time the application was made. The Applicant sought compliance with existing limits in RM13.215.03.V2 until 31 December 2025. The only change from existing limits was that the Applicant proposed to measure Carbonaceous biochemical oxygen demand (cBOD5) instead of total BOD5 because the Applicant considers it is a more appropriate measurement of organic content in wastewater.
60. The Applicant's most recent version of the proposed conditions (dated 11 September 2025) seeks the discharge quality limits that were initially intended to apply from 1 January 2026 onwards under condition 3 of resource consent 2008.238.V2 or when Stage 3 upgrades were fully operational.
61. The location at which all proposed limits must be met is after UV treatment at the auto sampler prior to discharge into the discharge channel.

Method of treated wastewater discharge (RM25.206)

62. The Applicant proposes to discharge treated wastewater from the WWTP to the discharge channel, from where treated wastewater will enter the Shotover River. The Applicant notes that as treated wastewater flows along the discharge channel, some may infiltrate the ground along the base and sides of the channel and enter groundwater. No application has been made to discharge treated wastewater to land in circumstances where the treated wastewater may enter water (ie groundwater).
63. The discharge channel is approximately 270 metres in length and varies in width. The channel has a longitudinal slope varying between 0.1% to 4%. There are three concrete culverts within the channel where public walking tracks are located.
64. The Applicant has assessed the hydraulic capacity of the channel (including culverts) to understand the likely capacity of the channel to convey treated wastewater. This assessment showed that most sections of the channel (including culverts) are expected to have sufficient capacity to convey the proposed maximum flow rate of 400L/s. Some sections of the channel do not have a defined cross section to contain the flow. They are mostly located at the outlet of the existing culverts and in Crown land managed by the Department of Conservation (between chainage 180 to 210 on Figure 3). The installation of earth embankments and improving the culverts' inlet and outlet at these sections is needed to shape a defined geometry and to prevent treated wastewater overtopping.

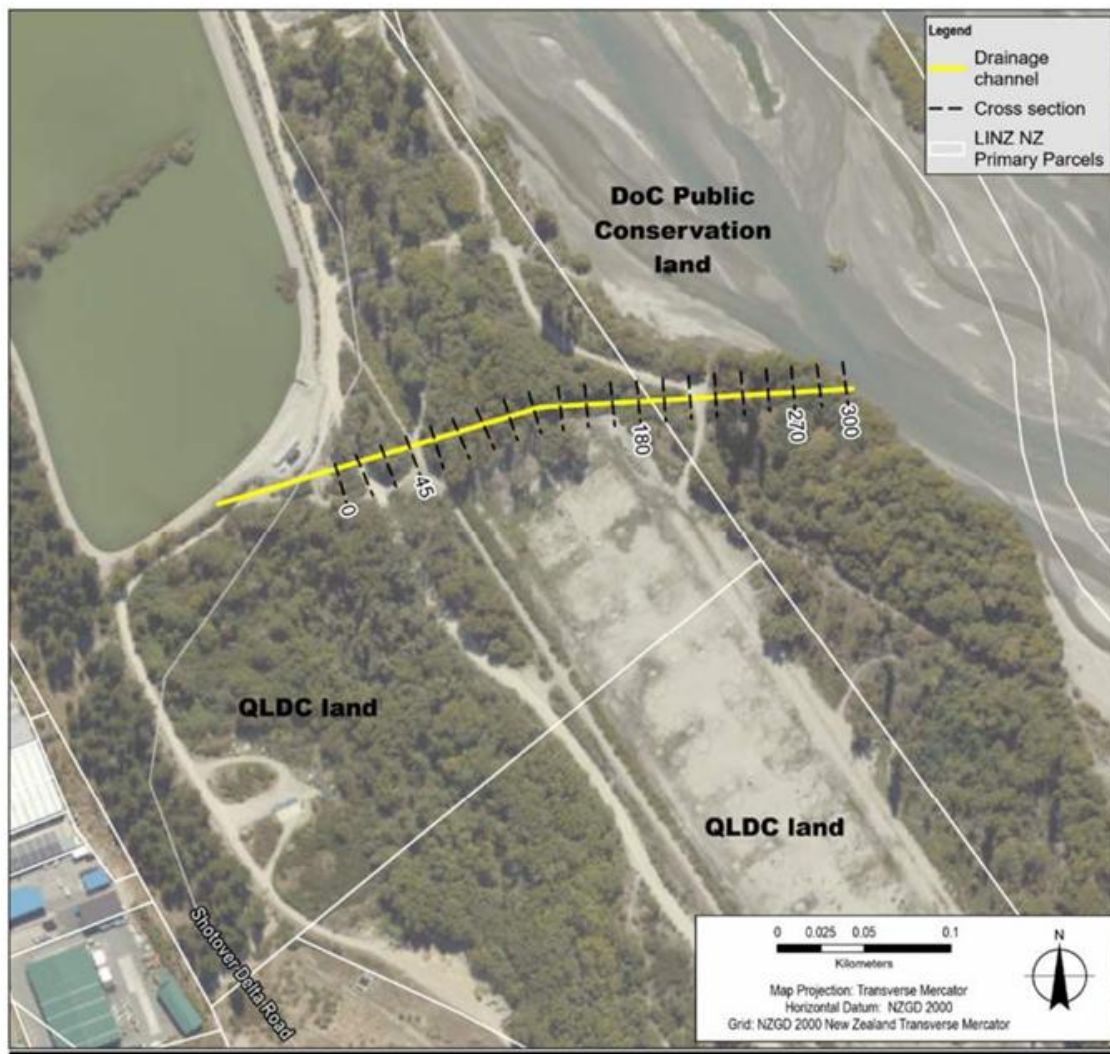


Figure 3: Drainage channel (referred to in this report as discharge channel) and analysed cross sections for hydraulic capacity assessment. Source: Application (page 34) dated 1 May 2025.

Operations and management manual for wastewater treatment and disposal system (RM25.206)

65. The Applicant has proposed to provide an Operations and Management Manual for the treatment and disposal system to ensure its operation is effective and efficient at all times. The Applicant has proposed resource consent conditions provided in Appendix D to the Section 92 RFI response that sets out the matters that must be covered by the manual. A number of these requirements already form part of the existing resource consents RM13.215.03.V2 and 2008.238.V2. A change from the conditions of 2008.238.V2 is a proposed requirement to update the existing operations and management manual in consultation with Te Ao Marama Inc and Aukaha Ltd.

Proposed sampling and monitoring regime for treated wastewater discharge (RM25.206)

66. The Applicant has provided a proposed sampling and monitoring regime in Appendix F to its application. Proposed resource consent conditions provided in Appendix D to the Section 92 RFI response also set out the proposed sampling and monitoring regime. It is noted that a number of these performance monitoring proposals already

form part of existing resource consents RM13.215.03.V2 and 2008.238.V2. A summary of the regime proposed for RM25.206 is provided in Table 1:

Sampling Locations	Parameters	Minimum Frequency
Plant Flows	Locations: Plan Inlet, Clarifier Outlet, Pond 3 Pump Station Type: Electromagnetic flow meters Flow monitoring: Daily totals and instantaneous rates	Continuous measurements
Discharge Flow Rate	After MLE2 is commissioned: Clarifier Outlet flow meter ⁷	Continuous measurements
WWTP Influent (for operational monitoring)	24 hour time composite samples Parameters: COD cBOD5, TSS, Tot N, TAN, TP, Alkalinity and pH	Weekly
Clarifier Effluent (for operational monitoring)	Grab sample Parameters: cBOD5, TSS, Tot N, TAN NO3N, NO2N, TP and pH	Weekly
UV Effluent (Consent Compliance Location)	24 hour time composite samples, except for <i>E.Coli</i> (grab samples) Parameters: COD, CBOD5, TSS, TOT N, TAN, NO3N, NO2N, TP, <i>E.Coli</i>	Monthly
Receiving Environment	Upstream and downstream monitoring on Kimiākau/Shotover River and downstream on Kwarau River (weekly) Groundwater quality monitoring at BH02, BH03, BH04 and BH06 (monthly) A draft monitoring plan is provided as Appendix F with further details of parameters and frequency at specific locations	Various

Table 1: Summary of proposed Sampling and Monitoring Regime. Source: Application (page 38) dated 1 May 2025.

67. The Applicant has proposed a condition of resource consent that Aukaha Ltd and Te Ao Marama Inc are invited to attend when monitoring is undertaken.
68. The Applicant notes that there was no receiving environment monitoring carried out in the Shotover River/Kimiākau under the current consent to discharge through the DAD. The Applicant has proposed resource consent conditions requiring submission of a Receiving Environment Monitoring Plan (**REMP**) within one month of RM25.206 commencing. The purpose of the REMP is to monitor the effects of the discharge on

⁷ Clarifier MLE2 has now been commissioned

surface water quality and instream ecology of the Shotover River/Kimiākau and Kawarau River and nearby groundwater quality.

69. The Applicant proposes that the REMP include:
- a. Sampling locations. At a minimum, one upstream and one downstream location 200 metres from the point of discharge into the Shotover River/Kimiākau;
 - b. Sampling methods;
 - c. Sampling frequency. At a minimum, monthly for surface water quality samples and six monthly for instream ecological surveys; and
 - d. Sampling parameters.
70. The Applicant proposes to provide the REMP and any subsequent updates to Aukaha Ltd and Te Ao Marama Inc.
71. In terms of reporting these results to the ORC the Applicant proposes to:
- a. Report daily discharge volumes for the previous calendar month within two weeks at the end of each calendar month;
 - b. Provide weekly sampling results within two weeks of results being received from the laboratory; and
 - c. Provide REMP analytical sampling results within two weeks of results being received from the laboratory alongside readings of the 24-hour wastewater discharge volume for the day of sampling.
72. In addition to the monitoring regime set out above, the Applicant also proposes to undertake a visual inspection of the discharge channel and outfall to ensure there is no erosion or scour as a result of the treated wastewater discharge.

Annual reporting of treated wastewater discharge (RM25.206)

73. Similar to the conditions of RM13.215.03.V2 and 2008.238.V2, the Applicant proposes to provide an annual report to the ORC summarising compliance with a range of consenting requirements including:
- a. The quality and quantity of treated wastewater discharged;
 - b. A summary of the year's monitoring results in the context of the previous year's results;
 - c. A summary of trends in receiving environment monitoring, any areas of concern, and outlining any changes to the system or operation to mitigate concerns;
 - d. Compliance with conditions of resource consent, any complaints received and any corrective actions undertaken.
74. A copy of the annual report is proposed to be provided to Aukaha Ltd and Te Ao Marama Inc.

Discharge of contaminants into air associated with the discharge of treated wastewater (RM25.206)

75. The Applicant currently holds a discharge permit to authorise the discharge of contaminants to air from operating the WWTP. This permit expires on 18 March 2044. Initially, the Applicant sought a variation to the existing discharge permit in accordance with Section 127 of the RMA. The ORC considered that the proposal was beyond the scope of the existing permit and needed to proceed as a new resource consent application.

76. The Applicant seeks to discharge contaminants into air associated with the discharge of treated wastewater to the Shotover River/Kimiākau. The Applicant expects odours from the WWTP to have a 'musty', 'earthy' or 'algae-like' character. The Applicant expects that any odours associated with the outfall to be detectable within 50 metres of the discharge point.
77. The Applicant proposes to manage discharges into air in the same way that discharges are managed under the existing resource consent. At a high level, discharges into air are managed as follows:
 - a. That there is no discharge of odour that is noxious, dangerous, offensive or objectionable to the extent that it causes an adverse effect beyond the boundary of the site.
 - b. The Applicant is required to adopt the best practicable options (BPOs) to prevent or minimise odour discharged from the site;
 - c. The discharges must occur in accordance with an Odour Management Plan that is peer reviewed by a suitably qualified air quality specialist and sets out:
 - i. A description of the potential sources of odour;
 - ii. A plan showing the legal boundaries of the site;
 - iii. Any BPOs to prevent or minimise odour discharges from the site;
 - iv. Methods and procedures to minimise odour from the site;
 - v. Methods for recording and responding to complaints;
 - vi. Assignment of responsibilities for implementing and updating the Odour Management Plan;
 - d. The consent holder must review the Odour Management Plan annually.
 - e. The consent holder must submit the Odour Performance Review Report three years following the commencement of the discharge and every three years thereafter.
 - f. The consent holder must undertake walkover surveys to determine odours at the boundary of the site following any upgrade works or in the event a complaint is received.
 - g. A Reference Group must be set up to facilitate consultation between the Consent Holder, stakeholder and iwi representatives. The Reference Group is to be provided monitoring reports for review and to discuss any issues associated with the performance of the site and make recommendations.

Works in the bed of the Shotover River/Kimiākau to construct an outfall structure from the discharge channel (RM25.206)

78. The Applicant proposes to construct an outfall structure to facilitate the discharge of treated wastewater into the Shotover River/Kimiākau. It is intended that these works minimise scour of the riverbed at the point of discharge and ensure the discharge channel outfall does not erode or become unstable. The original application document states that detailed design is yet to occur, but the Applicant proposes to armour the riverbank up to 6 metres long and 2 metres in height with large locally sourced boulders.
79. The Section 92 RFI response provides some additional design details for the outlet structure, noting that it is likely to comprise cascading gabion walls, gabion baskets and a riprap basin in front of the diversion channel. Figure 4 from the application provides a cross section of the proposed outfall structure and diversion channel.

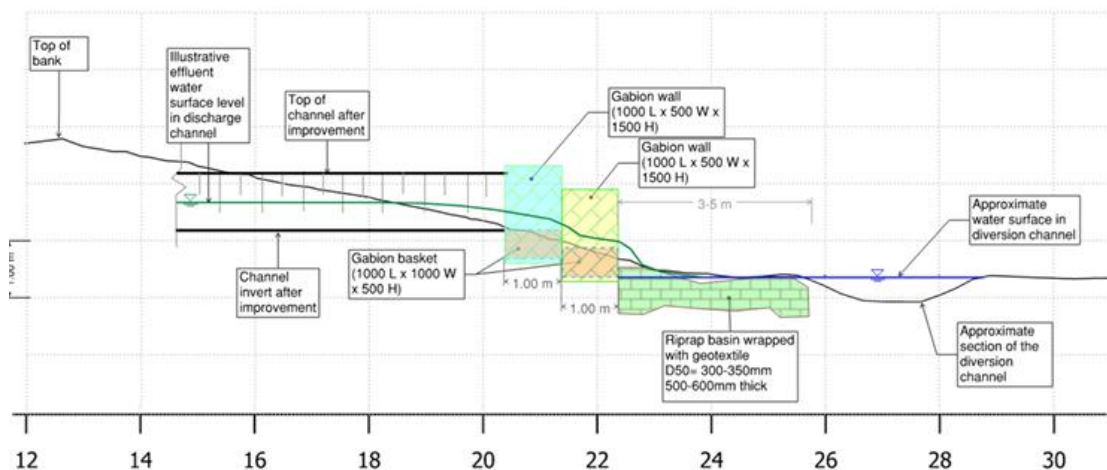


Figure 4: Cross section of proposed erosion protection and diversion channel. Source: Page 73 of Section 92 RFI Response dated 13 August 2025.

80. Earthworks requirements proposed by the Applicant in the Section 92 RFI response include:
 - a. Clearance of approximately 30 to 40m² of vegetation on the riverbank;
 - b. Excavation and reshaping the side slopes of the riverbank for the discharge channel erosion protection with an approximate footprint of 4 metres x 4 metres and height of 2 metres with a batter slope of 1:3 with a total volume of 10m³ on either side of the discharge channel for construction of the proposed river protection system (total of 20m³ over 35m²); and
 - c. Excavation of 5 metres x 5 metres footprint to the depth of 700 millimetres (approx. 18m³) in the riverbed in front of the gabion outlet to install the riprap basin.
81. The Applicant proposes to extend the riprap apron (which I understand is referred to as 'basin' in Figure 4) parallel to the riverbed for 3 to 4 metres to create a smooth diversion (sought to be authorised via RM25.177) from the braid to the mixing basin in front of the discharge channel.
82. The Applicant expects that the total proposed footprint of these works to be approximately 120 – 150m².
83. The Applicant states that the selection of the preferred construction method will depend on the site conditions and constructability considerations and will be determined during the detailed design stage.
84. In addition, localised earthworks are required on a section of the discharge channel to provide additional conveyance capacity for treated wastewater. This is expected to involve minor increases in the height of the channel walls upstream of culvert three over a length of approximately 30 metres. It is not clear based on the information available at this time what the exact capacity of the channel is and whether allowances for rainfall and groundwater interception if this was to occur.
85. The Applicant expresses a preference to undertake these works at times of low flow to minimise works undertaken in flowing water. However, timing of the works will depend on when the works are necessary. The Section 92 RFI response further suggests that no dewatering or fish salvage will be required. The Applicant proposes to isolate any

works required in wet areas or areas with flow by sheet piling and/or erosion and sediment control measures.

86. The Applicant states that there may be exotic vegetation requiring removal at the location of the outfall. It may also need to remove vegetation to achieve access to the site, which may also require some vegetation removal. However existing access to the riverbed is already available in close proximity.
87. The Applicant proposes to undertake works in a manner that ensures bed disturbance will be limited to the extent necessary to undertake the works and that fish passage will be provided for. Any damage to banks, including riparian vegetation as a result of the works is proposed to be reinstated within one month. Machinery used to undertake works will not be operated from the wet bed of the Shotover River/Kimiākau and accidental discovery protocol is proposed to be adopted. The Applicant will limit the hours of work to Monday to Friday 7:00am to 7:00pm and will not undertake work on public holidays. The Applicant will prevent public access to the area of works, however access to the Shotover River/Kimiākau will be maintained with signage directing avoidance of the works area.
88. The Applicant expects that the total duration of these works will be between four to six weeks. Works in the bed of the Shotover River/Kimiākau will be less than 10 hours. The Applicant has proffered consent conditions that require detailed design plans and a Construction Management Plan to be submitted to the ORC.

Description of activities proposed as part of application RM25.177

Works in the bed of the Shotover River/Kimiākau to construct and maintain a diversion channel (RM25.177)

89. Given the dynamic nature of the braidplain, the Applicant proposes a zone within which it will undertake the proposed riverbed disturbance works. The purpose of the works in the bed of the Shotover River/Kimiākau is to facilitate the diversion of water to ensure the discharge of treated wastewater is to a consistently flowing braid of the Shotover River/Kimiākau to enable dilution and sufficient mixing downstream of the zone of reasonable mixing. The Applicant proposes works within the bed to achieve:
 - a. a diversion flow target of 2.5m³/s within the diversion channel to dilute the discharge of treated wastewater; and
 - b. a minimum flow of 1m³/s in the adjacent flowing braid to achieve sufficient mixing downstream of the reasonable mixing zone. The zone of reasonable mixing has been calculated by the Applicant as 200 metres downstream of the discharge point in the Shotover River/Kimiākau.
90. The Applicant has provided a high-level design of the proposed diversion channel to inform this stage of the process. The Applicant says that further detailed design will follow and, at the time of works, further details of the river morphology, bathometric data and flow measurements will confirm the adequacy of the proposed dimensions and configuration.
91. The indicative diversion and flow maintenance zone is depicted in Figure 5 below. All works described above are proposed to occur within the identified zone:



Figure 5: Approximate zone of potential diversion and flow maintenance. Source: Page 75 of Section 92 RFI Response, dated 13 August 2025.

92. The Section 92 RFI Response proposes that the diversion channel will:
 - a. Commence approximately 300 metres upstream of the discharge location and may extend up to approximately 200 metres downstream.
 - b. Require disturbance of up to 1,000m³ of bed material for the initial works over an area of approximately 750m².
 - c. Be trapezoidal in shape with a bottom width of 1 metre battered at 1:2.
 - d. Be of sufficient depth to provide for a water depth of approximately 600 mm at the upstream end of the diversion channel to deliver approximately 2.5m³/s. Water depth at the downstream extent of the diversion channel is expected to be slightly more than one metre.
93. The Applicant states that if the target flow rate of approximately 2.5m³/s is unable to be achieved, deepening and widening of the diversion channel may be required in addition to local reshaping of the adjacent braid to allow more flow to spread towards the treated wastewater discharge point.
94. The Section 92 RFI Response states that the works associated with the adjacent braid will:
 - a. Be of a minor nature and localised, only occurring within the true right of the flowing braid;
 - b. Lower the righthand side of the braid by 300 to 400 millimetres

- c. Most likely occur during low flow conditions and when the braiding pattern realigns the nearby braid away from the diversion channel.
95. Figures 5 and 6 provide approximate schematics and cross sections of the proposed diversion channel and how it is proposed to intersect with the proposed discharge channel outfall structure:

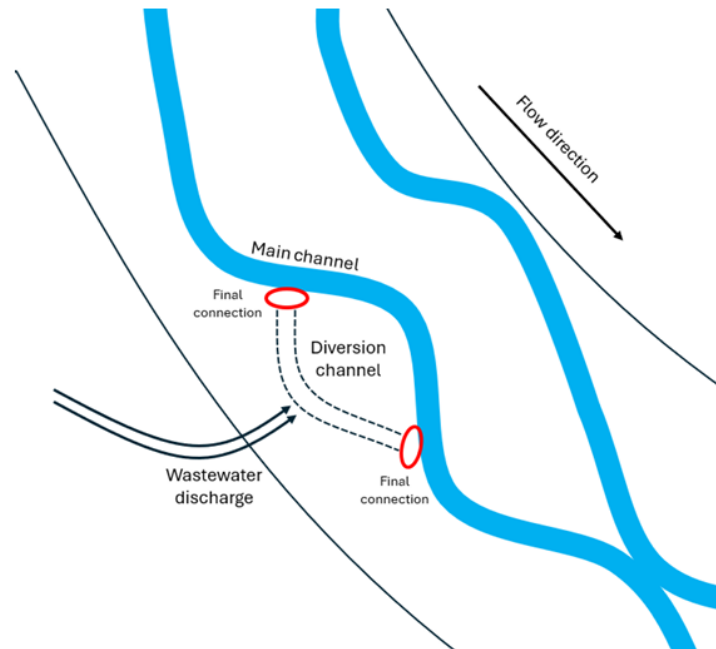


Figure 6: *Approximate Schematic of proposed diversion works. Source: Page 6 of AEE dated 10 April 2025.*

96. The Applicant's Section 92 RFI response states that works to construct the braid will involve excavating a shallow diversion channel from the nearby braid, starting approximately 310 metres upstream and tying back into the existing level downstream of the discharge channel. Reshaping of the nearby braid's cross section is anticipated to further enhance the spread of the flow towards the outlet structure to provide for the desired flow rate to dilute treated wastewater.
97. In the Section 92 RFI response, the Applicant proposes the following construction methodology:
- a. access will be from Shotover Delta Rd, Queenstown Trail, and via multiple tracks to the river;
 - b. machinery requirements will be kept to a minimum and include two 15 tonne excavators, one truck, two utes, and standard hand tools for earthworks;
 - c. works will be completed within the dry riverbed during low flows to minimise works in flowing water.
98. Excavated gravels are proposed to be left in-situ, adjacent to the excavated channel and re-contoured to tie in with the surrounding gravel area. However, the Applicant is open to removing excavated material if that is beneficial.
99. Initial riverbed works are expected to be completed within six to eight weeks.
100. At this stage the quantity of works required to maintain the target flow rate and any ongoing maintenance or re-creation of the channel is unknown as it will be determined

by the movement of gravel within the bed. The Applicant notes that between 2000 and 2013 there were four recorded instances of diversion works taking place to enable continued operation of the discharge outlet. As stated above, if, during low-flow conditions, the target flow rate is not achieved, then deepening and widening of the diversion channel may be required alongside local reshaping of the nearby braid to encourage additional flow to spread towards the dilution basin.

101. The Applicant in its Section 92 RFI response says that further assessment and mitigation measures will be addressed following more detailed survey, hydrometric measurements and adjusting the geometry of the diversion system during the detailed design.
102. The Applicant sets out a series of recommended next steps to prepare for detailed design in its section 92 RFI response. Proposed steps include:
 - a. Conducting detailed morphological and hydraulic surveys of the Shotover River/Kimiākau near the discharge point to understand variability in flow and channel locations;
 - b. Undertaking flow measurements upstream and downstream of the discharge location to better assess dilution potential and adjust the design if needed;
 - c. Undertaking soil and substrate testing in the riverbank along the proposed diversion channel and outlet structure to validate the protection design, riprap sizing and slope stability;
 - d. Proceeding to detailed engineering design, including construction staging, adaptive management plan (e.g. planned maintenance and reinstatement after flood events) and monitoring requirements.
103. The Applicant proposes to undertake bed disturbance works at all times of the year to ensure the diversion channel is effective at providing for flow past the discharge point. To avoid disturbing nesting birds during the period of 1 August to 31 January each year (breeding and laying period for nesting birds) the Applicant has proposed resource consent conditions requiring the time period to be avoided (bed disturbance works to not occur) unless an exemption is granted. The assessment criteria for an exemption is a survey undertaken by a suitably qualified and independent ornithologist/ecologist of all areas to be disturbed and a 100-metre radius of the surrounding site to identify any potential bird nesting sites (including the diversion works area and access routes). In the event works cease for more than 72 hours, the site must be resurveyed.
104. A report documenting the findings of the survey and recommendations for works must be provided to the Department of Conservation for approval prior to works. In addition to this requirement, the Applicant also proposes a condition for vehicles and machinery to not operate within 100 metres of birds that are breeding, nesting or rearing their young in the bed of the river.
105. The Applicant proposes to undertake works with an accidental discovery protocol in place and has agreed to include a pounamu discovery condition.

Discharge of remobilised sediment resulting from works in the bed of the Shotover River/Kimiākau to construct and maintain a diversion channel (RM25.177)

106. The Applicant proposes that construction of the diversion channel occurs during low flow conditions, enabling works to be undertaken outside of the riverbed channels. The Applicant expects that works will be of short duration.
107. The Applicant expects once construction is complete, a first flush of the discharge channel will mobilise and discharge sediment. The Applicant does not expect there to be any ongoing sediment discharges relating to construction works or the diversion structure itself.

Diversion of water within the bed of the Shotover River/Kimiākau to ensure the discharge of treated wastewater sought to be authorised under RM25.206 is always to flowing water (RM25.177)

108. The Applicant proposes to divert water into a diversion channel that the Applicant proposes to establish in the bed of the River.
109. A diversion flow target of 2.5m³/s is sought which represents approximately 10% of the total Shotover River/Kimiākau flow and less than 20% of the Mean Annual Low Flow of the Shotover River/Kimiākau.
110. The Applicant also seeks to maintain a minimum flow of 1m³/s within an adjacent braid to assist with achieving sufficient mixing downstream of the reasonable mixing zone.

Proposed duration for both consent applications

111. The Applicant seeks an expiry date of 31 December 2030 for all applications associated with RM25.206 and RM25.177.
112. This means the duration sought for all applications is less than five years, by the time the applications are determined.

Description of the Environment

113. The Applicant has provided a description of the site and surrounding environment in the application for RM25.206 from page 38 of that document and within the Shotover WWTP Surface water and Groundwater Assessment (prepared by GHD) dated 30 April 2025.
114. To inform the Surface and Groundwater Assessment undertaken by GHD, site investigations were undertaken by the Applicant to characterise the geological, hydrological and surface water environment in the vicinity of the site and to assess the influence of wastewater discharges on the receiving environment. Site investigations undertaken included:
 - a. The installation of 21 groundwater monitoring wells;
 - b. Groundwater level monitoring of two new monitoring wells and two existing monitoring wells (IH3 and BP01);
 - c. Groundwater quality sampling;
 - d. Hydraulic testing of aquifer conductivity;
 - e. Test pitting across the delta; and
 - f. Surface water sampling in the Shotover River/Kimiākau and Kawarau River pre and post the discharge to surface water commencing.
115. A description of the site and surrounding environment is also provided in the application for RM25.177 from page 9 of that document.
116. The description of the environment from both documents is adopted for the purposes of this report. Relevant details are:

Location and site description

117. The Shotover WWTP is located on the Shotover River/Kimiākau delta to the south of the State Highway 6 bridge over the Shotover River. The site and surrounds are shown in Figure 1.
118. The site, including the Shotover/Kimiākau and Kawarau Rivers, are major tributaries of the Clutha River/Mata-Au and are in the Clutha Mata-Au Freshwater Management

119. The Shotover River/Kimiākau converges with the Kawarau River at a 90 degree angle approximately 1.2 kilometres from the upgradient extent of the proposed diversion zone.
120. There are no specific archaeological or cultural sites identified when auditing the site on Otago Maps. It is understood from the application that at a local level the Shotover River/Kimiākau and Kawarau River are recognised wāhi tupuna in particular through their use as ara tawhito (traditional travel routes - especially as a route towards the West Coast/Tai Poutini for pounamu), mahika kai (food gathering) and by Māori miners.
121. Based on information provided in the application, the Department of Conservation appears to administer the area of the Shotover/Kimiākau riverbed within the extent of the discharge and some of the discharge channel outlet location as shown on Figure 7.
122. Topography of the site is generally flat and most of the area surrounding the discharge channel is vegetated with exotic species including willow, poplar and sumac. In the location of the discharge channel outlet, the Applicant says that vegetation consists mainly of willow.
123. The riverbed to the north, east and south of the discharge channel outlet consists of fluvial gravels and is free of vegetation.
124. To describe recreational users of the Shotover River/Kimiākau and the Kawarau River the Applicant refers to a summary provided in the report for existing resource consent 2008.238.V2. This identifies that both rivers are used extensively for recreation, including fishing, jet boating, whitewater rafting, river surfing and bungee jumping. Recreational uses are generally highest during the summer months, by tourists. Commercial jet boats regularly travel up and down the lower Shotover River/Kimiākau and pass the site at least every half hour. This information was provided from a report prepared in 2008 and there has been no updated information on these recreational uses as part of this process, except that cyclists and walkers now also frequently traverse the area over the discharge using the recently constructed Queenstown Twin Rivers Trail, which intersects the discharge channel.
125. The Clutha River/Mata-Au is identified as one of the most intensively used trout fisheries in New Zealand.
126. The nearest dwellings to the discharge channel location are over 500 metres northeast of the outfall. The nearest commercial properties are located approximately 500 metres to the west of the proposed outfall.
127. The site is not within a 'polluted' airshed.
128. The WWTP, discharge channel and diversion channel are considered 'regionally significant infrastructure' under the Proposed Otago Regional Policy Statement 2021.



Figure 7: Landownership/administration within the Shotover River/Kimiākau delta and adjacent WWTP area. Unmarked riverbed between the DoC land parcels is crown owned riverbed managed by LINZ. Source: Page 40 of application dated 1 May 2025.

Climate

129. The Applicant has provided a summary of climate data sourced from NIWA. This information shows that rainfall in Queenstown is relatively high with variation year to year.
130. The Applicant has provided a wind rose generated from wind data collected at Queenstown Airport's metrological station in the application. This shows that winds predominantly come from the north to northeast direction, with lower but still significant frequencies from the southwest. Most windspeeds fall between 3 to 7.5 metres per second, with occasional higher speeds observed from the northeast.

Surface Water

131. The Clutha River/Mata-Au catchment is characterised by high alpine rainfall, with low rainfall and high evaporation rates in the semi-arid valleys of Central Otago and high erosion within some parts of the catchment.
132. The section of the Shotover River/Kimiākau where the discharge is located is characterised by several active braided channels and high flood frequency resulting in

changeable river habitat. Downstream of the discharge, the Shotover River/Kimiākau forms a delta at the confluence with the Kawarau River.

133. The Shotover River/Kimiākau converges with the Kawarau River at a roughly 90 degree angle approximately 1 kilometre downstream of the discharge.
134. The Applicant states that during high flows the Shotover River/Kimiākau can restrict the downstream flow of the Kawarau River, increasing the risk of flooding around the Lake Wakatipu shoreline. During such events the delta acts as a floodplain, causing significant sediment deposits into the delta and resulting in the natural re-routing of the braided river channels.
135. The Shotover River/Kimiākau responds rapidly to rainfall while the Kawarau River responds less to floods, given the buffering effect of Lake Wakatipu.
136. To address potential flood risks to upstream communities, an engineered rock wall (training line) was constructed in 2011 to train the flow of the Shotover River/Kimiākau to its true left and reduce flow restriction effects in the Kawarau River during high flow events. The Applicant notes that this has permanently altered the hydrology of the Shotover River/Kimiākau during flood conditions. The training line constrains the river to ~50% of its natural width.
137. The current active channel/s of the Lower Shotover River/Kimiākau is approximately 650 metres in width. A further 700 metre width of the delta is covered in established vegetation and the Applicant's WWTP infrastructure.
138. The Applicant has provided a summary of flow statistics from NIWA in the application for both the Shotover River/Kimiākau and the Kawarau River as follows:

River	Mean flow (m ³ /s)	Median flow (m ³ /s)	Mean annual low flow (MALF) (m ³ /s)
Kawarau River	232.8	179.1	71.2
Shotover River/Kimiākau	56.5	43.4	18.1

Geology

139. A summary of the geology and hydrology of the Shotover River/Kimiākau is provided in Appendix G to the application.
140. The Shotover/Kimiākau Delta has been subject to several investigations which have confirmed the geology of the underlying delta is predominantly a sandy fine to coarse gravel with some cobbles. Fine sand underlies gravel, at least at the Kawarau River end of the delta.

Groundwater

141. Groundwater and surface water are highly connected within the Shotover River/Kimiākau delta area. The water table in the delta is relatively shallow, with water levels observed in test pits at approximately 0.5 to 1.0 metres below ground level.
142. In its AEE at page 10, the Applicant says Groundwater flow across the delta is likely to be generally to the southeast, towards the Kawarau River.
143. Hydraulic testing in the delta showed very high horizontal conductivity in the sandy gravel layers, while fine sand deposits had much lower permeability, likely due to silt content. This contrast in permeability of materials could significantly influence groundwater flow direction, depending on where the materials are present.
 - a. The Applicant states that the discharge channel was constructed in 2010 and was inspected prior to the discharge occurring. The Applicant observed that fine

sediment and debris had accumulated at the channel base, ranging in thickness from 0.1 to 0.2 metres. Exposed soils in the channel walls were observed to comprise of fine to medium sand, with fine to coarse gravel.

144. Groundwater monitoring was undertaken by the Applicant of wells up and downgradient of the discharge channel. Based on this, the Applicant has determined depth to groundwater beneath the discharge channel to be approximately 2 metres.
145. There are a number of monitoring bores associated with the WWTP. Monitoring of groundwater levels in the nearest boreholes since the discharge commenced 31 March 2025 indicates that the any soakage from the discharge channel does not appear to be notably influencing groundwater levels in these wells.

Surface water quality

Wider catchment surface water quality

146. The Applicant provided an overview of the state of the environment monitoring for the Shotover River/Kimiākau and the Kawarau River sourced from LAWA as follows:

Site	Parameter	State (as per the National Policy Statement for Freshwater Management 2020 attribute bands)
Shotover at Bowens Peak (approximately 6 kilometres upstream of the discharge point)	<i>E.coli</i>	Not assessed
	Clarity	D (identified as due to naturally occurring processes)
	Ammoniacal Nitrogen	A
	Nitrate Nitrogen	A
	Dissolved Reactive Phosphorus	A
Kawarau at Chards Road (approximately 9.5 kilometres downstream of the discharge point)	<i>E.coli</i>	A
	Clarity	D (identified as due to naturally occurring processes)
	Ammoniacal Nitrogen	A
	Nitrate Nitrogen	A
	Dissolved Reactive Phosphorus	A

147. Based on this information from LAWA:
 - a. Water quality in the Shotover River/Kimiākau at the Bowens Peak site is excellent, other than high turbidity due to glacial melt. Monitored parameters are shown to be in the best 25% of all river sites except for clarity and total phosphorus, which are shown to be in the worst 25% and worst 50% of all sites respectively.
 - b. Water quality in the Kawarau River at Chards Road is excellent, other than for clarity as a result of the influence of the Shotover River/Kimiākau. Monitored parameters are shown to be in the best 25% of all sites except for clarity which is in the worst 50% of all sites.

Surface water ecology

148. Biological monitoring of river health has been required as part of the Shotover WWTP's consent monitoring programme in 2013, 2015 and 2016.⁸ The Applicant says that 2013 monitoring showed 'fair' to 'excellent' water quality and/or habitat quality at the monitoring sites downstream of the discharge outlet, with overall stream community health described as 'good' to 'excellent' via QMCI⁹ scores. The 2015 investigation reflected similar results while the 2016 investigation concluded that the dynamic nature of the riverbed had a larger impact on benthic communities than the discharge from the WWTP.
149. The Applicant has provided summarised results of its ecological monitoring undertaken in 2024. This identifies:
- a. Several species of caddisfly, midges, mayflies, stonefly and flies in the Shotover River/Kimiākau.
 - b. Macroinvertebrate taxonomic diversity and abundance of the river has been generally low from 2010 – 2022.
 - c. Downstream of the historical WWTP discharge, macroinvertebrates were more abundant than upstream with a higher diversity of Chironomids (midge larvae), and dipteran and caddisfly larvae;
150. Didymo is present at all Kawarau River sites. With respect to the Shotover River/Kimiākau, a desktop review suggests that didymo may be more prevalent in the Shotover River/Kimiākau upstream of the WWTP discharge point;
- a. Sparse patches of phytoplankton in low flow channels adjacent to the historical WWTP discharge point;
 - b. Periphyton cover in the Shotover River
151. The Shotover River/Kimiākau and Kawarau River have been found to provide habitat for a range of native and endemic fish species as follows:
- a. Longfin eels (at risk – declining);
 - b. Upland and common bullies (not threatened);
 - c. Kōaro (at risk declining);
 - d. Brown and rainbow trout.
152. The Applicant's 2024 assessment found the value of freshwater fish species present near the WWTP was assessed as high due to the presence of 'at risk' species.

Groundwater quality

153. The site is not located within the Whakatipu Basin Aquifer as delineated on Map C4 of the RPW, but the boundary of the aquifer follows the northern (true left) bank of the Shotover River/Kimiākau and intersects stretches of the Kawarau River downstream of the confluence with the Shotover River/Kimiākau.
154. It is understood that the Applicant abstracts groundwater from a series of bores on the true left bank of the Shotover River/Kimiākau (opposite bank of the river to the discharge), approximately 500 metres upstream of the discharge channel.
155. The Applicant has provided a summary of groundwater quality in the receiving environment in Appendix G to the application.¹⁰ Groundwater sampling comprised of one round of samples taken up and downgradient of the discharge channel on 8 April

⁸ As part of the resource consent conditions of RM13.215.02

⁹ Quantitative Macroinvertebrate Community Index

¹⁰ A further round of monitoring has subsequently been completed.

2025, approximately one week after the discharge channel became operational. The following provides a brief summary of the Applicant's groundwater quality monitoring results obtained during the 8 April 2025 monitoring round:

- a. The influence of treated wastewater becomes increasingly evident in groundwater moving to the southeast when comparing up and downgradient sampling results, in particular:
 - i. Increasing relative proportion of sodium, potassium and chloride in groundwater, and increasing electrical conductivity, with this demonstrating a transition away from the natural mineralogy of the area, towards an influence with greater dissolved solids;
 - ii. Increasing nitrogen concentrations, with a notable increase of nitrogen in downgradient samples when compared to upgradient samples;
 - iii. A shift to low dissolved oxygen and reducing conditions moving towards downgradient wells reflecting notable presence or influence of organic material/compounds and microbiological activity;
 - iv. The presence of nitrogen as ammoniacal-N, supported by reducing conditions in groundwater, also reflects a source with high ammoniacal-N rather than a nitrate-N dominated source;
 - v. Total Coliforms and *E. coli* are elevated in downgradient wells, however these microbiological contaminants were also detected upgradient of the discharge channel.
- b. The Applicant highlights that concentrations of ammoniacal-N in groundwater measured in downgradient wells were greater than those measured in the treated wastewater being discharged and highlights that the results from the most-downgradient well (BH04, adjacent to the DAD) are likely due to longer term discharges from the DAD and oxidation ponds and not the discharge channel.

Resource Consents

156. Based on an audit undertaken using Otago Maps¹¹, there are no water permits authorising the abstraction of water from the Shotover River/Kimiākau downstream of the discharge. There may be water takes from the Shotover River/Kimiākau and/or the Kawarau River that are not identified on Otago Maps as they are undertaken as permitted activities in accordance with the Regional Plan.
157. Based on an audit undertaken using Otago Maps, there are no registered drinking water supplies that abstract from the Shotover River/Kimiākau or the Kawarau River in proximity to the discharge location. There may be water takes from the Shotover River/Kimiākau and/or the Kawarau River that are not identified on Otago Maps as they are undertaken as permitted activities in accordance with the Regional Plan
158. The nearest authorised water permit to abstract water from the Kawarau River downstream of the site is located near Cromwell approximately 40 kilometres downstream of the site (2009.068). The purpose of this abstraction is listed as 'irrigation'.
159. The Applicant also states that there may be potable water supplies from the Shotover River/Kimiākau and/or the Kawarau River that are not identified on Otago Maps because water may be taken as a permitted activity in accordance with the RPW.

¹¹ Otago Maps is an online web-map viewer managed by the ORC. It can be accessed at <https://maps.orc.govt.nz/OtagoMaps/>

160. According to Otago Maps, there are a number of resource consents identified in the Shotover River/Kimiākau or on its bed. These are set out in Table 2:

RM Number	Consent Holder	Description	Location	Expiry
RM2008.594	Otago Regional Council	To disturb the bed of the Shotover River and Kawarau River for the purpose of extracting gravel to maintain a target bed contour	The Shotover River between approximately 600 metres downstream of the State Highway 6 Shotover River Bridge and confluence with the Kawarau River	17/1/2046
RM16.164.01	Queenstown Hardfill Management Company Limited	To disturb the bed of the Shotover River for the purpose of gravel extraction		1/3/2027
RM16.353.01	Queenstown Gravel Supplies Limited	To disturb the bed of the Shotover River for the purpose of gravel extraction		1/3/2027
RM17.311.01	Fulton Hogan Limited – Alexandra	To disturb the bed of the Shotover River for the purpose of extracting up to 150,00 cubic metres of gravel per year		30/11/2027
2008.591	Otago Regional Council, Manager Engineering	To discharge contaminants, namely sediment, to land in a manner that may enter water, and to water, for the purpose of placing and maintaining a training line structure or training line/rock revetment structure.	The Shotover River, between approximately 1 and 2 kilometres downstream of the State Highway 6 Shotover River Bridge, Queenstown Lakes District	19/1/2046

2008.598	Otago Regional Council, Manager Engineering	To discharge contaminants, namely sediment, to the Shotover River and Kawarau River for the purpose of extracting gravel	The Shotover River, between approximately 600 metres downstream of the State Highway 6 Shotover River bridge and the Shotover River confluence with the Kawarau River, Queenstown Lakes District	17/1/2046
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Table 2: Resource consents identified within the Shotover River/Kimiākau

Recognised values listed in the Regional Plan: Water for Otago

161. The Regional Plan: Water for Otago (**RPW**) outlines the natural and human use values of various watercourses throughout the Otago Region in Schedule 1A¹². The Shotover/Kimiākau and Kawarau River are identified in this schedule. The Shotover River/Kimiākau is identified for the following natural and ecosystem values:
- a. Large water body supporting high numbers of particular species, or habitat variety, which can provide for diverse life cycle requirements of a particular species, or a range of species.
 - b. Bed composition of importance to resident biota – gravel, boulder, sand and rock.
 - c. Absence of aquatic pest plants identified in the Pest Plant Management Strategy for the Otago Region.
 - d. Presence of a significant range of indigenous waterfowl.
 - e. Presence of indigenous waterfowl threatened with extinction.
 - f. Presence of riparian vegetation of significance to aquatic habitats.
 - g. Presence of indigenous waterfowl threatened with extinction.
162. The Kawarau River is identified for the following natural and ecosystem values:
- a. Large water body supporting high numbers of particular species, or habitat variety, which can provide for diverse life cycle requirements of a particular species, or a range of species.
 - b. Bed composition of importance to resident biota – gravel and rock.
 - c. Absence of aquatic pest plants identified in the Pest Plant Management Strategy for the Otago Region.
 - d. Presence of significant fish spawning areas for trout and salmon.
 - e. Presence of significant areas for development of juvenile trout and salmon.
 - f. Presence of indigenous fish species threatened with extinction.
 - g. Significant presence of trout, salmon and eel.

¹² Updated to 1 October 2013

- h. Presence of indigenous waterfowl threatened with extinction.
 - i. Presence of a significant range of indigenous invertebrates.
 - j. Presence of indigenous invertebrates threatened with extinction.
 - k. Presence of significant indigenous aquatic vegetation.
 - l. Regionally significant presence of gamebirds.
 - m. Also note outstanding natural features/landscapes, significant indigenous vegetation etc and areas with a high degree of naturalness.
163. Schedule 1AA¹³ of the RPW identifies Otago resident native freshwater fish and their threat status. The Kawarau River is known to provide significant habitat for kōaro and habitat for eels, salmon and trout, which are within this schedule.
164. The Applicant refers to NIWA's Freshwater Fish Spawning and Migration Periods (2014) publication and states that:
- a. Salmonid (including salmon, brown trout and rainbow trout) spawning months extend from March to September each year; and
 - b. Koaro spawning months extend from April to August.
165. Schedule 1B¹⁴ of the RPW identifies rivers where water taken is used for public water supply purposes. There are no Schedule 1B values listed for the Shotover/Kimiākau or Kawarau Rivers.
166. Schedule 1C¹⁵ identifies registered historic places. The historic places listed for the Shotover River/Kimiākau are located upstream of the diversion channel area so have not been considered further.
167. Schedule 1D¹⁶ of the RPW identifies the spiritual and cultural beliefs, values and uses associated with water bodies of significance to Kāi Tahu. The Shotover River/Kimiākau is identified as having the following values:
- a. Kaitiakitanga: the exercise of guardianship by Kāi Tahu, including the ethic of stewardship.
 - b. Mauri: life force.
 - c. Waahi taoka: treasured resource; values, sites and resources that are valued.
 - d. Mahika kai: places where food is procured or produced.
 - e. Kohanga: important nursery/spawning areas for native fisheries and/or breeding grounds for birds.
 - f. Trails: sites and water bodies which formed part of traditional routes, including tauraka waka (landing place for canoes).
 - g. Cultural materials: water bodies that are sources of traditional weaving materials (such as raupo and paru) and rongoa (medicines).
168. The Kawarau River is identified as having the following values:
- a. Kaitiakitanga: the exercise of guardianship by Kāi Tahu, including the ethic of stewardship.
 - b. Mauri: life force.

¹³ Updated to 1 March 2012

¹⁴ Updated to 1 March 2012

¹⁵ Updated to 1 March 2012

¹⁶ Updated to 1 March 2012

- c. Waahi taoka: treasured resource; values, sites and resources that are valued.
 - d. Trails: sites and water bodies which formed part of traditional routes, including tauraka waka (landing place for canoes); and
 - e. Cultural materials: water bodies that are sources of traditional weaving materials (such as raupo and paru) and rongoa (medicines).
169. Schedule 3A¹⁷ identifies human uses of groundwater from particular aquifers in Otago. The Whakatipu Basin Aquifer is not recognised as having a human use in Schedule 3A.
170. Schedule 3B¹⁸ identifies the location of groundwater takes for the purpose of community water supply. There are no Schedule 3B community water supply takes located in close proximity to the discharge.
171. Schedule 9¹⁹ identifies regionally significant wetlands and wetland management areas. The nearest Regionally Significant Wetland is the Shotover River Confluence Swamp located northeast of the Shotover/Kimiākau and Kawarau River confluence and approximately 550 metres from the discharge location.
172. The site is not within a Nitrogen Sensitive Zone identified in Planning Maps H.

Regionally Significant Wetlands

173. The nearest Regionally Significant Wetland is the Shotover River Confluence Swamp located northeast of the Shotover/Kimiākau and Kawarau River confluence.

Water Conservation (Kawarau) Order 1997 (Kawarau WCO)

174. Both the Kawarau and Shotover/Kimiākau Rivers are protected by the Water Conservation (Kawarau) Order 1997 (Kawarau WCO). The outstanding characteristics of the Shotover River/Kimiākau identified in the Kawarau WCO that must be sustained include²⁰:
- a. Wild and scenic characteristics;
 - b. Natural characteristics, in particular the high natural sediment load and active delta at confluence with the Kawarau River;
 - c. Scientific value, in particular the high natural sediment load and active delta at confluence with the Kawarau River;
 - d. Recreational purposes, in particular rafting, kayaking and jetboating; and
 - e. Historical purposes in particular gold mining.
175. The outstanding characteristics of the Kawarau River mainstem from Scrubby Stream to Lake Wakatipu Control Gates identified in the Kawarau WCO that must be sustained include²¹:
- a. Wild and scenic characteristics;
 - b. Natural characteristics, in particular the return flow in the upper section when the Shotover River/Kimiākau is in high flood;
 - c. Scientific value, in particular the return flow in the upper section when the Shotover River/Kimiākau is in high flood;

¹⁷ Updated to 1 March 2016

¹⁸ Updated to 1 March 2016

¹⁹ Updated to 5 March 2022

²⁰ Schedule 2 Water Conservation (Kawarau) Order 1997

²¹ Ibid.

- d. Recreational purposes, in particular rafting, jetboating and kayaking.
176. Under the Kawarau WCO water quality in both waters is to be managed to a Class CR standard, with no damming allowed.
177. Class CR standard is defined in Schedule 3 RMA as:
- “(1) The visual clarity of the water shall not be so low as to be unsuitable for bathing.*
- (2) The water shall not be rendered unsuitable for bathing by the presence of contaminants.*
- (3) There shall be no undesirable biological growths as a result of any discharge of a contaminant into the water.”*
178. Both the Kawarau and Shotover/Kimiākau Rivers are outstanding water bodies as defined by the NPS-FM because of the Kawarau WCO.

Planning context

Existing environment

179. For the purpose of assessing the effects of this proposal, I consider the existing environment includes the environment as it is modified by implementing existing resource consents that third parties and the Applicant already hold, including the effects authorised by the Applicant’s existing resource consent to discharge treated wastewater to the DAD and progression to a full upgrade of the WWTP (Stage 3) which has been made operational during the submission period for this application.
180. The applications seek to retrospectively authorise discharges which are already occurring. It would be nonsensical for a decision considering whether an activity should be retrospectively authorised to treat that activity as part of the existing environment. Based on this, I do not consider the existing environment includes the environment as it is modified by the activities, specifically the discharge of treated wastewater to the Shotover River, already taking place and subject of the application made under RM25.206.
181. I consider any information obtained from the activities occurring (such as ongoing surface water quality monitoring) can be used to help establish the actual and potential environmental effects of the proposal. This can be continually updated as these applications progress.

Bed extent of the Shotover River/Kimiākau

182. The Applicant has applied for a land use consent to disturb the bed of the Shotover River/Kimiākau. To determine the extent of the bed of the Shotover River/Kimiākau (and the locational extent of the resource consents to place an outfall structure on the bed), the Applicant has referred to the findings of the Court of Appeal in *Dewhirst Land Co Ltd v Canterbury Regional Council* (CRC).
183. The Applicant has identified the nearest discernible/reasonable bank to be a sudden change in topography and the abrupt presence of mature trees. Based on this is the Applicant considered that the discharge channel is not within the bed of the Shotover River/Kimiākau and it is just the outlet from the discharge channel to the bed of the Shotover River/Kimiākau that requires resource consent as works in the bed. At this stage, it has not been necessary to confirm the full extent of the bed with respect to these applications and expert advice has not been sought to confirm the Applicant’s assessment of bed extent.

Regional Plan: Water for Otago

184. The Regional Plan: Water for Otago (**RPW**) is the operative plan managing land and water in the region. The RPW promotes the sustainable management of Otago’s water

resources. It sets objectives, policies, methods and rules to address the use, development and protection of Otago's freshwater resources, including the beds and margins of water bodies. The RPW was notified in 1998 and became operative on 1 January 2004 and has been subject to a series of plan changes between 2006 and 2022. On 20 August 2025, the Resource Management (Consenting and Other System Changes) Amendment Act 2025 made further amendments to the RPW.

185. Plan Change 8 (Discharge management) (**PC8**) to the RPW was made fully operative on 3 September 2022 and was introduced to strengthen the management of activities that result in discharges of contaminants to water that are known to contribute to water quality issues, with an aim to improve water quality in the region. PC8 amended existing and introduced new provisions for:
 - a. Managing through enhanced policy direction, decision making on stormwater, wastewater and rural discharges;
 - b. Effluent storage and application to land through new minimal standards;
 - c. Promoting good farming practices, including better managing contaminant loss from intensive grazing and stock access to water bodies as well as incentivising the use of small in-stream sediment traps;
 - d. Improving management of sediment loss from earthworks for residential development; and
 - e. Clarifying provision for national and regionally significant infrastructure in wetlands.
186. Of relevance to this application is the policy direction relevant to discharges. There were no rules introduced by PC8 relevant for consideration to these applications.

Discharge of treated wastewater to surface water or onto or into land in circumstances where it may enter water (RM25.206)
187. Chapter 12 of the RPW sets out rules relevant to Water Take, Use and Management. Rules relevant to the discharge of human sewage are contained in Section 12.A. Rule 12.A.2.1 of the RPW states:

Except as provided for by Rules 12.A.1.1 to 12.A.1.4, the discharge of human sewage to water, or onto or into land in circumstances where it may enter water, is a discretionary activity (refer 12.A.2).
188. The permitted activity rules at 12.A.1.1 to 12.A.1.4 do not apply. The discharge is a **discretionary activity** under the RPW and resource consent is required.
189. In addition to human sewage, the treated wastewater discharge will also include contaminants from industrial and trade premises. Rule 12.B.4.1 of the RPW states:

The discharge of water (excluding stormwater) or any contaminant from an industrial or trade premises or a consented dam to water or to land is a discretionary activity, unless it is permitted by Rule 12.B.1.6, 12.B.1.7, 12.B.1.10 or 12.B.1.11.
190. Rules 12.B.1.6, 12.B.1.7, 12.B.1.10 or 12.B.1.11 do not permit the discharge of water containing human sewage from an industrial and trade premise to water. Given this, the discharge must be considered a **discretionary activity** and resource consent is required.
191. This is consistent with the rule assessment provided in the application.
192. Overall, the discharge of treated wastewater to surface water is a **discretionary activity** under the RPW.

To construct a riprap outfall protection structure in the bed of a river (RM25.206)

193. Chapter 13 of the RPW contains rules related to land use on lake or river beds or regionally significant wetlands. Chapter 13.2 contains rules relevant to the erection or placement of a structure. Structure is defined in the RPW and means “*any building, equipment, device, or other facility made by people and which is fixed to land; and includes any raft.*”
194. Rule 13.2.1.4 of the RPW provides the permitted activity criteria for the erection or placement of an outfall structure that is fixed in, on, or under the bed of a lake or river. The Applicant states that condition (a) of Rule 13.2.1.4 is unable to be met because the outfall structure will be larger than 2 square metres. Due to this non-compliance, the Applicant has sought a resource consent for a discretionary activity under Rule 13.2.3.1.
195. Based on the description of the proposed activity provided by the Applicant and details available at this stage, I agree that the placement of cascading gabion baskets and riprap at the outfall of the discharge channel is the placement of a structure. This is because the fixing of gabion boxes will create a building or facility which is fixed to the land. Therefore, I agree with the Applicant and consider the activity requires resource consent as a **discretionary activity** under the RPW.

To construct a diversion channel in the bed of a river (RM25.177)

196. The Applicant has assessed that the works to construct and maintain the diversion channel in the bed of the Shotover River/Kimiākau cannot be undertaken in accordance with permitted activity Rules 13.5.1.1-13.5.1.5; 13.5.1.8A – B and resource consent is required for a discretionary activity in accordance with Rule 13.5.3.1.
197. Rule 13.5.3.1 applies to the alteration of the bed of any lake or river as a discretionary activity where Rules 13.5.1.1 to 13.5.2.1 do not apply. Rules 13.5.1.1 to 13.5.2.1 do not apply. I agree with the Applicant and consider the activity requires resource consent as a **discretionary activity** under the RPW.

To discharge sediment to water as a result of undertaking works to construct the diversion channel in the bed of a river (RM25.177)

198. The Applicant considers that the discharge of sediment that may occur as a result of the first release of water through the diversion channel, instream works or ongoing maintenance requires resource consent as a discretionary activity in accordance with Rule 12.C.3.2.
199. Rule 12.C.3.2 provides a direct discretionary activity status for the discharge of water or any contaminant to water if rules 12.C.3.2(a) to (c) do not apply. I agree with the Applicant and consider the discharge requires resource consent as a **discretionary activity** under the RPW.

Diversion of water (RM25.177)

200. The Applicant has assessed the proposed diversion of water requires resource consent as a discretionary activity under Rule 12.3.4.1(i) because the upstream catchment exceeds 50 hectares so the activity is not permitted by 12.3.2.
201. I agree with the Applicant and consider the proposed diversion requires resource consent as a **discretionary activity** under the RPW.

Regional Plan: Air for Otago

202. The Regional Plan: Air for Otago (RPA) is the operative plan for managing the air resource in Otago. The RPA seeks to promote the sustainable management of the region’s air resource and contains objectives, policies and rules intended to achieve this. The RPA was made operative on 1 January 2003 and has been subject to two plan changes and one amendment.

To discharge contaminants into air (RM25.206)

203. Chapter 16 of the RPA sets out rules for the discharge of contaminants to air. The Applicant considers the discharge of contaminants to air cannot comply with the permitted activity Rule 16.2.7.1 because of exceeding the BOD5 limit and resource consent is required for a discretionary activity under Rule 16.3.7.3.
204. I agree with the assessment provided by the Applicant and consider that an air discharge permit is required as a **discretionary activity**.

Regional Plan: Water for Otago Permitted Activity Rules

205. The Applicant has provided an assessment of the disturbance of the bed associated with the placement of the outfall structure sought as part of RM25.206 against the following permitted activity rule in the RPW as summarised below:
- a. Rule 13.5.1.1 which provides for the disturbance of the bed and resulting discharge or deposition of bed material associated with the placement of a structure on the bed of a river.
206. I agree with the Applicant that the ongoing use of the structure (consisting of gabion boxes and rip rap) meets the permitted activity conditions of Rule 13.1.1 of the RPW based on the information provided to date.
207. The Applicant has provided an assessment of the discharge of dust into air associated with the riverbed works proposed as part of RM25.177 against the following permitted activity rule in the RPA as summarised below:
- a. Rule 16.3.13.1 which provides for the discharge of contaminants to air from any outdoor general engineering activity.
208. I agree with the Applicant that the discharge of dust to air meets the permitted activity conditions of Rule 16.3.13.1 of the RPA based on the information provided to date and no resource consent is required because it is associated with an outdoor engineering activity or building and construction.
209. Based on the information I have available at this stage, I agree with the assessments provided by the Applicant.

Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (NES-F)

210. The NES-F contains provisions to regulate activities that pose risks to the health of freshwater and freshwater ecosystems. The regulations came into force on 3 September 2020.
211. The Applicant has provided an assessment of the NES-F in the application, which concludes that it is not applicable to the proposal because:
- a. the closest known natural wetland is the Shotover River Confluence Swamp approximately 250 metres from the discharge to water; and
 - b. the proposal does not seek to install or construct structures that may impact on fish passage.
212. I agree with the Applicant's assessment and do not consider the NES-F to be relevant to these applications.

Resource Management (National Environmental Standards for Air Quality) Regulations 2004 (NES-AQ)

213. The NES-AQ came into effect in 2004 and was amended in 2011. The purpose of this NES is to set a guaranteed minimum level of health protection for New Zealanders. The NES-AQ manages a number of contaminant discharges, including PM₁₀, NO₂, CO, Ozone and SO₂.

214. The Applicant has provided an assessment of the NES-AQ in the Application documents, concluding that it is not applicable.
215. The prohibition on discharges from certain activities in Regulation 4 of the NES is not relevant, as the Applicant does not propose undertaking any of the prohibited activities.
216. The site is not within a Gazetted Airshed, so Regulations 17, 20 and 21 which manage the discharge of particulate matter, carbon monoxide, nitrogen oxides, and sulphur dioxide are not applicable to the proposal.
217. I agree with the Applicant's assessment and do not consider the NES-AQ to be relevant for assessment.

Discharge channel improvement works

218. The Applicant states that the discharge channel requires maintenance and upgrading to ensure it is fit for purpose. Such works required may involve dredging, re-shaping, widening or deepening the discharge channel.
219. Activities within the extent of the discharge channel outside of the bed of the Shotover River/Kimiākau are managed by Section 9 of the RMA which states:
- (1) *No person may use land in a manner that contravenes a national environmental standard unless the use—*
- (a) *is expressly allowed by a resource consent; or*
- (b) *is allowed by section 10; or*
- (c) *is an activity allowed by section 10A; or*
- (d) *is an activity allowed by section 20A.*
- (2) *No person may use land in a manner that contravenes a regional rule unless the use—*
- (a) *is expressly allowed by a resource consent; or*
- (b) *is an activity allowed by section 20A..."*
220. There are no national environmental standards or regional rules in the RPW that control the use of land for the activities proposed by the Applicant.
221. Work to dredge, re-shape, widen or deepen the discharge channel outside of the bed of the Shotover River/Kimiākau can occur without resource consent from the ORC and no application has been made.
222. For work within the bed, the Applicant will need to apply for resource consent if the work does not fall within a permitted activity rule (eg permitted activity rule 13.5.1)

Summary

223. The activity statuses achieved under the regional plans are summarised in Table 2 below:

Activity	Regional Plan	
	RPW	RPA
Discharge of human effluent to water or onto or into land in circumstances where it may enter water (RM25.206)	Discretionary (Rule 12.A.2.1)	N/A
Discharge of water (excluding stormwater) or	Discretionary (Rule 12.B.4.1)	N/A

any contaminant from an industrial or trade premises (RM25.206)		
To place structures (outfall protection structure) in the bed of a river (RM25.206)	Discretionary (Rule 13.2.3.1)	N/A
To discharge contaminants into air (RM25.206)	N/A	Discretionary (Rule 16.3.7.3)
To alter the bed of a river (diversion channel) (RM25.177)	Discretionary (Rule 13.5.3.1)	N/A
To discharge sediment to water as a result of altering the bed of a river (diversion channel) (RM25.177)	Discretionary (Rule 12.C.3.2)	N/A
To divert water (RM25.177)	Discretionary (Rule 12.3.4.1(i))	N/A

Notification and Submissions

224. The Applicant requested public notification of the application to discharge treated wastewater to the Shotover River/Kimiākau and to undertake works in the bed to construct the discharge point (RM25.206). A decision was made to also publicly notify the application to construct the diversion channel and to divert water with the bed of the Shotover River/Kimiākau (RM25.177). The reasons for this decision included:
- Both RM25.177 and RM25.206 are inextricably linked and the consents were bundled; and
 - Special circumstances exist for RM25.177.
225. Notice was served on 20 September 2025 in the following newspapers,
- The Mountain Scene;
 - The News (Central); and
 - The Otago Daily Times.
226. Letters of notice also served to a number of organisations and groups.
227. 10 submissions were received on the application. Of these:
- One was in support;
 - Six opposed the application; and
 - Three were neutral.
228. In accordance with Section 87F(4)(c), a summary of submissions received has been prepared and is annexed to this report as Appendix 3.
229. In preparing this report, I have reviewed and considered all submissions received.
230. The submission from Ms Nicolette Tania Macfarlane on behalf of the Queenstown Lakes Community Action opposes the application for a number of reasons, some of which are discussed in the subsequent sections of this report. There are some concerns raised in this submission that relate to the process undertaken by the Applicant in making decisions relevant to the application (such as compliance with relevant requirements of the Local Government Act 2002 and the Applicant's

Significance and Engagement Policy (2024)). While I agree these are important aspects, I do not consider the Applicant's statutory compliance with those documents to be relevant to the application for resource consent, and I have not considered them further. This submission also cites concerns with the Applicant's use of Section 330 and 330A of the RMA to undertake the discharge. Similarly, I have not assessed the validity of the use of Section 330 of the RMA in this report.

Statutory Considerations

231. In accordance with Section 87F, Sections 104 to 112 of the RMA are discussed below to the extent that they are relevant to this proposal.
232. As noted above, the application is to be assessed overall as a discretionary activity under the regional plans. When considering an application for a discretionary activity, the consent authority must have regard to Part 2 of the RMA and sections 104, 104B and, where relevant, sections 104G, 105, 107, 108 and 108AA of the RMA.

Consideration of Applications (Section 104)

233. The matters to which a consent authority shall have regard when considering applications for resource consents and submissions are set out in section 104(1) of the RMA.
234. The provisions of section 104 are all subject to Part 2, the purpose and principles of the RMA. The section 104(1) matters that I consider to be of relevance to this application include:
 - a. Actual and potential effects on the environment – From paragraph [249] of this report I consider the AEE and the technical expert reports in my overall assessment of the actual and potential effects of the activities.
 - b. National Environmental Standards (NES) – The NES-F, the NES-AQ and the NES for Sources of Human Drinking Water are relevant to this application. I have discussed the NES-F from paragraph [210] and the NES-AQ from paragraph [213]. I discuss the NES for Sources of Human Drinking Water in paragraph [420] of this report.
 - c. Other regulations – there are no other regulations of relevance to this application.
 - d. National Policy Statements (NPS) - The National Policy Statement for Freshwater Management 2020 is relevant to this application. I discuss the relevant NPS from paragraph [424] of this report.
 - e. New Zealand Coastal Policy Statement – the New Zealand Coastal Policy Statement is not relevant to this application.
 - f. Regional Policy Statement (RPS) and/or proposed RPS – The Otago Regional Policy Statement 2019 and the proposed Otago Regional Policy Statement 2021 is relevant to this application. These documents are discussed from paragraph [449] of this report.
 - g. Relevant Regional Plans – The relevant objectives and policies of the RPW and RPA are discussed from paragraph [486] of this report.
235. Other matters the ORC considers relevant – Relevant to this application are the Water Conservation (Kawarau) Order 1997, Te Rūnanga o Ngāi Tahu Freshwater Policy 1999, Kāi Tahu Ki Otago Natural Resource Management Plan, Ngāi Tahu Ki Murihiku Natural Resources and Environmental Management Plan.
236. Section 104(2) allows a consent authority to disregard an adverse effect of the activity on the environment if a national environmental standard or plan permits an activity with the effect, when forming an opinion for the purposes of subsection (1)(a). As I understand it, this is commonly referred to as the 'permitted baseline'. I do not consider

the application of Section 104(2) is relevant to these applications because the discharge of treated wastewater is unable to occur as a permitted activity and I have not considered the permitted baseline further.

237. Section 104(2A) applies to applications affected by section 124 or 165ZH(1)(c). These sections are not relevant to the application and I have not considered Section 104(2A) further.
238. Sections 104(2B) and (2C) applies to applications for activities within an area within the scope of a planning document prepared by a customary marine title group under Section 85 of Marine and Coastal Area (Tukutai Moana) Act. There are no such planning documents that apply, and I have not considered Sections 104(2B) and (2C) further.
239. Sections 104(2D) and (2DA) sets out requirements for considering resource consent applications that relate to a wastewater network as defined in Section 5 of the Water Services Act 2021 (WSA). I consider the applications sought in this process do relate to a 'wastewater network' as defined in the WSA 2021.
240. There is no infrastructure design solution. The Applicant provided an assessment of the draft Wastewater Standards in the application. This assessment concluded that based on the draft standards available at the time the receiving environment would be akin to 'moderate dilution' as defined under the draft standards. have considered the effect of the Water Services (Wastewater Environmental Performance Standards) Regulations 2025 (**WEPS**). An exception at Regulation 43(g) applies: the proposed activity is the discharge of treated wastewater into a water body (the Shotover) that meets the attributes of band A in Appendix 2A of the NPS-FM except for clarity, which the Shotover does not meet as a result of a naturally occurring process (the influence of glacial meltwater). The effect is that, in accordance with section 104(2DA), section 104(2D) and the WEPS do not apply.
241. Sections 104(2E) and (2EAAA) apply to stormwater networks. These sections are not relevant to this application because the application does not seek to authorise discharges from a stormwater network, and I have not considered them further.
242. Section 104(2EA) enables the consent authority to have regard to any previous or current abatement, enforcement or infringement notices or convictions under the RMA received by the Applicant for a non-natural person. I have considered this from paragraph [528] of this report.
243. Section 104(2F) and (2G) requires the consent authority, when considering an application or any submissions received, not to have regard to clauses 1.3(5) or 2.1 of the NPSFM 2020 which require that all freshwater management decisions give effect to Te Mana o te Wai by prioritising the health of freshwater ecosystems first, the health needs of people second and community well-being third. My assessment of the relevant provisions of the NPSFM 2020 from paragraph [424] of this report accords with this requirement.
244. I consider the following provision in Section 104(3) is relevant for consideration:
 - a. Section 104(3)(c)(i) which requires the consent authority to not grant resource consent contrary to Sections 107 or 217.
245. Section 104(6A), which states that a consent authority may decline a resource consent if the applicant has a record of significant non-compliance with a requirement of the Act that is ongoing or repeated, and if the Applicant is or has been subject to an enforcement order or conviction under this Act.
246. Section 104(6) and 104(7) enables the consent authority to decline an application for resource consent on the grounds that it has inadequate information to determine the

application and to have regard to whether any request made of the applicant for further information or reports resulted in that further information being available. There are uncertainties associated with the information provided to date. These are identified throughout this report.

Other matters relevant to the consideration of discharge permits (Sections 105 and 107)

247. Section 105 of the RMA sets out additional matters that a consent authority must have regard to when considering applications for discharge or coastal permits to do something that would contravene section 15 of the RMA. These matters are addressed from paragraph [533] of this report.
248. Section 107(1) of the RMA places restrictions on the grant of resource consents for the discharge of contaminants into water if they cause certain adverse effects in receiving waters after reasonable mixing. The effects listed in section 107(1) of the RMA are discussed from paragraph [540] of this report.

Assessment of actual and potential effects on the environment of allowing the activity (Section 104(1)(a))

249. The Applicant provided:
- a. An assessment of effects of the activities sought to be authorised by RM25.206 in Section 5 of that application, and was subsequently updated by the information provided in the Section 92 RFI response.
 - b. An assessment of effects for the activities sought to be authorised by RM25.177 in Section 5 of that application, and was subsequently updated by the information provided in the Section 92 RFI response.
250. Relevant details from the Applicant's assessment are outlined below. Uncertainty remains regarding the detailed design, construction, and future maintenance or rebuilding of the proposed diversion channel within the riverbed. Accordingly, the assessment set out below has been undertaken conservatively, that is, on the basis of the greatest potential effects that could arise from this aspect of the proposal.
251. The activity status for the proposal has been bundled to discretionary. This means that there is no limitation on the effects that can be considered by the ORC.

Effects on surface water quality and aquatic ecology (RM25.206 and RM25.177)

252. The discharge of treated wastewater to surface water will adversely effect the surface water quality and may affect the aquatic ecology of the Shotover River/Kimiākau and other waterbodies that it contributes to. The placement of material or a structure in the bed of a river may also cause adverse effects on surface water quality and aquatic ecology as can the diversion of water within the bed. I have undertaken an assessment of each activity and the actual or potential effects on surface water quality and ecology in the sub-sections below.
253. As set out in the description of the proposal from paragraph [51] of this report, there has been a change in the discharge quality limits sought by the Applicant since the notification decision was made because the Stage 3 upgrade of the WWTP is fully operational earlier than originally programmed. This assessment is based on the Applicant adhering to Stage 3 discharge quality limits.
254. I have relied on the advice from Dr Greer in undertaking this audit.

Effects arising from the discharge of treated wastewater to the Shotover River/Kimiākau (RM25.206)

255. Due to the dynamic nature of the river bed, at times treated wastewater may be discharged with limited mixing in the river (as occurred at the commencement of the discharge in March 2025). The Applicant expects that mixing will be improved when a

flowing braid is maintained past the point of discharge. There may be periods of time where this does not occur because of the dynamic nature of the river, which see the location of the river braids change. A flowing braid is currently present past the discharge point, the Applicant seeks resource consents to authorise the establishment and maintenance of a diversion channel to facilitate and maintain the flow of river water past the discharge point (sought as part of RM25.177). Given this reliance on RM25.177 to mitigate the effects arising from the treated wastewater discharge to surface water under RM25.206, the audit below is undertaken both on the basis of the proposed diversion sought as part of RM25.177 occurring as proposed and without the proposed diversion.

256. Submissions received from Ms Nicolette Tania Macfarlane for Queenstown Lakes Community Action, Whitewater NZ, Dr Shayne Galloway and Ms Victoria Emily McNiece oppose the applications in full and cite the potential impacts on surface water quality and aquatic ecology resulting from the discharge of treated wastewater and disturbance of the riverbed as a concern. The submission from Ms Nicolette Tania Macfarlane for Queenstown Lakes Community Action raises that group's concerns that no new ecological fieldwork or site based surveys have been undertaken to inform the assessment of effects. Dr Shayne Galloway also raises concern with the reliability of in river works as a mitigation measure.
257. In undertaking an audit of the Applicant's assessment of the effect on water quality in the Shotover River, I have relied on the technical advice of Dr Greer and Mr Shoebridge.
258. The Applicant has provided a technical information to inform the assessment undertaken of the effect on water quality. Technical information was provided in the original application and supplemented with additional technical information contained in the Section 92 RFI response.
259. The Applicant's assessment summarises the water quality and ecological monitoring that occurred when treated wastewater was previously discharged to the Shotover River/Kimiākau (2017 – 2019). The Applicant relies on this historic monitoring to provide an indication of the effects that could be expected from the current discharge. Dr Greer considers the availability of the historic ecological monitoring data provides a good indication of the environmental risks associated with the application. It is also important to note that at the time of historic monitoring treated wastewater was of a lower quality than that discharged today.

Without the diversion of 2.5m³/s of water

260. The Applicant has provided an assessment of initial water quality results in its application, which is reflective of seasonal low flow conditions. A summary of the findings of these results are provided in Section 5.3.2 of the original application. This assessment acknowledges that limited dilution of discharged treated wastewater was achieved under the very low flow conditions at the time of the initial discharge in March 2025. Increases in river flow as a response to rain events demonstrated that greater dilution was able to be achieved with small increases in river levels. Dr Greer's advice is that the predicted increases in ammoniacal nitrogen; nitrate nitrogen; five day carbonaceous biochemical oxygen demand and dissolved reactive phosphorus concentrations after reasonable mixing (measured as 170 metres downstream of the point of discharge to the River) will all be significantly greater than what would likely occur if the diversion is achieved (as assessed in the subsection below).
261. Dr Greer expects the impact of discharge to the Shotover River/Kimiākau without the creation of a diversion channel will include:

- a. The RPW limit for ammoniacal nitrogen in Schedule 15²² being exceeded;
 - b. A significant increase in ammonia toxicity risk (although not to the extent indicative of significant adverse effects);
 - c. An increase in nitrate toxicity risk, potentially causing the Shotover River/Kimiākau to degrade from an A-band attribute state under the NPSFM to a B-band attribute state; and
 - d. A greater risk of periphyton blooms.
262. Dr Greer expects that *"will result in significant degradation in water quality. In the absence of the 2.5 m³ /s of dilution water facilitated by the proposed diversion, this degradation will be severe, with contaminant concentrations far exceeding what would be expected in an alpine river with a catchment predominantly in indigenous vegetation"*. In terms of subsequent aquatic ecology effects, Dr Greer's advice is that there is a risk that the treated wastewater discharge could degrade ecological communities (such as macroinvertebrates) of the Shotover River/Kimiākau and that this risk is significantly increased should the Applicant not be able to reliably provide 2.5m³/s of dilution water. However, the historical monitoring data does not support a conclusion that significant effects on ecological communities and subsequently aquatic life are likely.
263. I consider Dr Greer's advice in relation to the effects of the discharge in the absence of the diversion of water highlights the critical importance of the activities sought to be authorised via RM25.177 for mitigating the potential water quality effects and the subsequent risk of ecological impacts. The dynamic river environment means that change to braid patterns over time is likely, and has already been demonstrated to occur since the discharge commenced.
264. However, while the water quality impacts would be significant under this scenario, the historic ecological monitoring data does not support a conclusion that significant effects on aquatic life are likely. However, as Dr Greer notes, the risk remains. This is discussed in greater detail in the section below.

With the diversion of 2.5m³/s of water

265. The diversion of river water is sought by the Applicant to increase available mixing and dilution of the discharge in the Shotover River. In terms of effects arising as a result of the discharge with the impact of the diversion. Dr Greer's advice on the basis of the information provided is as follows:
- a. *"There will be significant increases in ammoniacal nitrogen; nitrate nitrogen; five day carbonaceous biochemical oxygen demand and dissolved reactive phosphorus concentrations after reasonable mixing (measured as 170 metres downstream of the point of discharge to the River). These increases are likely to result in the RPW limit for dissolved reactive phosphorus and nitrate not being met.*
 - b. *Increased ammoniacal nitrogen concentrations will raise the risk of ammonia toxicity effects compared to upstream conditions. Concentrations will exceed the level that should be maintained to protect high conservation/ecological value systems in the Shotover River and cause a shift from an A-band state to a B-band state for ammoniacal nitrogen concentrations under the NPSFM. As mentioned in relation to the effects of the discharge without the diversion of 2.5m³/s of water, Dr Greer highlights that previous ecological monitoring does*

²² Schedule 15 of the RPW provides a schedule of characteristics and numerical targets for good quality water in Otago lakes and rivers. Schedule 15 is referred to in a number of RPW policies.

not suggest that this increase is likely to generate a statistically detectable degradation of ecological communities.

- c. Nitrate nitrogen concentrations are not expected to be increased by the treated wastewater discharge to the extent that the risk of nitrate toxicity effects on aquatic life is increased.*
- d. While increased nitrate nitrogen and dissolved reactive phosphorus concentrations pose an increased risk of nuisance periphyton (algal) blooms, previous ecological monitoring conducted when the wastewater was previously discharged to the River does not provide evidence that such blooms are likely to occur.*
- e. The increase in carbonaceous biochemical oxygen demand is unlikely to be sufficient to increase the risk of heterotrophic growths (sewage fungus). This is similarly supported by previous ecological monitoring.*

(quoted with references removed)

266. Based on Dr Greer's advice, the proposed discharge is likely to result in significant increases for a range of water quality parameters in the River.
267. When considering the effects of the discharge alongside implementation of the mitigation measures sought to be authorised via RM25.177, I consider it likely that there will be significant degradation of water quality. This is represented by the shift from A-band to B-band attribute states under the NPSFM for Ammonia Toxicity identified by Dr Greer. In terms of ammonia toxicity effects, Dr Greer has advised that, from a theoretical perspective, impacts on ammonia toxicity, macroinvertebrate communities and periphyton blooms would typically be expected. Despite this, as highlighted by the Applicant and Dr Greer, historical monitoring data does not support a conclusion that significant adverse effects on aquatic life are likely as a result due to the monitoring not showing the increases as being likely to generate a statistically detectable degradation of ecological communities. Dr Greer has advised that the overall risk of the discharge, based on measured data provided by the Applicant is low. But, as mentioned in the advice of Dr Greer, there is a risk that such effects could occur in future.
268. I consider a key issue associated with evaluating the impacts of the discharge with the diversion is ensuring it can reliably and continuously achieve the necessary flow to provide adequate dilution of discharged treated wastewater, as set out in Dr Greer's and Dr McConchie's advice (discussed below). Flow data referred to by Dr Greer suggests that the diversion may not be able to provide the full 2.5m³ design flow for more than 20% of the time, and this could be significantly greater due to the gravel build-up in the diversion channel or relocation of river braids in the Shotover River/Kimiākau following high flows. Similarly, Dr McConchie highlights the dynamic river environment within which this discharge occurs and which has changed considerably since the discharge commenced.²³ To ensure the level of effects do not reach the extent of those which could occur in the absence of the diversion sought under RM25.177, I consider it is critical to ensure that the Applicant monitors the diversion channel area and undertake works to maintain or reinstate the channel as soon as possible following a determination being made that they are necessary.
269. The information provided by the Applicant with regard to the discharge channel construction, operation and management is largely conceptual and outcome-based. The Applicant expects to provide more specific information to inform the detailed design aspects of the proposal, which will assist with determining an appropriate scale

²³ As observed during the site visit undertaken on 9 October 2025.

and extent of diversion channel to achieve the proposed flow rate. I also note that, unlike the proposed conditions for RM25.206, there have been no amendment to proposed consent conditions circulated by the Applicant for RM25.177 following submission of the Section 92 RFI response.

270. Dr Greer has suggested consent conditions as follows:
- a. Require that at least 2.5m³/s of water is diverted from the main braid of the Shotover River/Kimiākau to the diversion channel at all times;
 - b. Require a residual flow of 1m³/s be retained in the main braid of the Shotover River/Kimiākau at all times;
 - c. Require the flow in the diversion channel be gauged daily to ensure adequate dilution is provided (Dr Greer notes that this could apply up to a certain river flow based on health and safety risks or the point at which dilution is no longer needed to manage effects);
 - d. Require remediation of the diversion channel within a specific timeframe if flow gauging reveals less than 2.5m³/s is being diverted to the WWTP outlet channel;
 - e. Formalise the conditions proposed in the Diversion Application and the Draft Conditions provided with the Section 92 response; and
 - f. Set instream ecological (macroinvertebrate and periphyton) targets or limits that will trigger a management response if the discharge creates greater adverse effects than were recorded when the discharge last went to the river.
271. I agree with the suggestions for consent conditions made by Dr Greer from the perspective of mitigating water quality and aquatic ecosystem impacts of the discharge. I suggest consent conditions are required to:
- a. Ensure that the consent holder must at least maintain 2.5m³/s of water from the main braid of the Shotover River/Kimiākau and must maintain a residual flow of 1m³/s in the main braid of the Shotover River/Kimiākau at all times;
 - b. Ensure the consent holder measures the flow in the diversion channel to ensure the necessary dilution is achieved. Dr Greer recommends that this could be achieved via daily gauging and that this could apply up to a certain river flow. I agree that conceptually, a method to measure and report on flow in the diversion channel should form part of the recommended consent conditions. Given the largely conceptual design provided and dynamic nature of the Shotover River/Kimiākau I consider that a management and monitoring plan approach is appropriate in this instance. I consider key aspects of the management plan would set out the monitoring locations, measurement methods and frequency of flow assessments, along with data recording and reporting procedures. I also recommend that the management plan would define trigger levels and outline corrective actions should the flows fall below the required threshold, including operational adjustments and notification of the consent authority. I address these matters in the suggested conditions.
 - c. Ensure that, if the flow in the diversion channel falls below 2.5m³/s, that the consent holder reinstates and remediates the diversion channel within a specified timeframe.
 - d. Ensure that the consent holder engages a suitably qualified aquatic ecologist to review and update the Applicant's Receiving Environment Monitoring Plan (REMP) to include a procedure should effects on macroinvertebrate and periphyton indicators be greater than those presented in historic ecological monitoring.
272. Drawing on Dr Greer's conclusions by and the recommended updates to consent conditions, I am of the view that while the discharge is likely to result in significant

degradation of water quality parameters, the effects on aquatic ecology are likely to be no more than minor, noting that a residual risk of higher ecological degradation remains if the diversion cannot be reliably achieved or in the event adverse effects occurred that were unanticipated. The suggested conditions are intended to minimise the impact of the discharge on surface water quality and set out a procedure for identifying effects on macroinvertebrate and periphyton indicators greater than previously measured.

Contingency measures

273. In the event of process failures at the wastewater treatment plant, the Applicant proposes consent conditions requiring the construction of a treated wastewater emergency storage pond (to which wastewater can be re-directed) by 31 December 2027. The construction of this pond is required under Enforcement Order issued on 9 June 2025 and the Applicant is to re-direct wastewater to the calamity pond if TSS levels at the autosampler exceed the 90th/95th percentile limits in the relevant resource consent (whether or not the percentile condition is contravened when annual results are considered) is to be used (Order 1.10). Following construction of this pond, the Applicant's proposed consent condition requires an update to the Operations and Maintenance Manual to identify events or situations that would trigger the re-direction of wastewater to the emergency storage pond.
274. In the interim, the proposed consent conditions include an updated Operations and Management Manual which requires the inclusion of contingency plans and procedures to manage component malfunctions and breakdowns of the treatment and disposal system. I consider this requirement would extend to apply to a scenario where the necessary dilution is not achieved at the discharge point to the River. I consider the use of this as a contingency measure could be required as a condition of resource consent. Conceptually, I consider that such a condition would require the re-direction of treated wastewater to the emergency storage ponds in the event a specified dilution ratio cannot be achieved at the discharge point into the River or the use of a receiving environment trigger (such as increasing concentrations of total nitrogen in the Shotover River/Kimiākau. The specifics of the proposed condition will require further discussion and input from the experts as the process. However, based on my understanding of the Applicant's construction schedule and requirements in the Enforcement Order, this will not be available as a viable contingency measure until 31 December 2027. Until this time, other contingency measures will need to be utilised by the Applicant as documented in the Operations and Management Manual.
275. The submission from Ms Nicolette Tania Macfarlane for Queenstown Lakes Community Action seeks a contingency plan is required from the Applicant that:
 - a. Is prepared and reviewed as required by the conditions of any consent and includes trigger points, risk thresholds and response protocols in the event of any WWTP malfunction;
 - b. Is reviewed annually and made publicly available.
276. Queenstown Lakes Community Action also seek that the existing DAD be remediated and retained under the existing consent (or a limited duration renewal) to provide further emergency backup until a long-term solution is available.
277. Mr Shoebridge's advice to the Consent Authority is that previous malfunctions that occurred at the plant were significant and posed risks to the receiving environment and the health of river users. Mr Shoebridge notes the Applicant's proposed inclusion of contingency measures in the Operations and Management Manual but considers there should instead be a separate consent condition that sets out contingency responses in the event of process upsets. This is aligned with matters raised in the submission

received from Queenstown Lakes Community Action. Mr Shoebridge provides an example of such a condition:

The consent holder shall maintain and implement a documented Contingency and Incident Response Plan. The Plan shall be submitted to the ORC for certification within 6 months of consent being granted. This Plan must:

- i. *Identify potential causes of treatment plan upset conditions, including but not limited to:*
 1. *High influent flows (e.g: storm events);*
 2. *Mechanical or electrical failures;*
 3. *Loss of treatment performance (e.g: high effluent ammonia or E.coli);*
- ii. *Include response procedures to be enacted during any upset event, including:*
 1. *Immediate mitigation measures to prevent or minimise untreated or partially treated discharges;*
 2. *Diversion or containment protocols for non-compliant flows;*
 3. *Notification requirements to the ORC;*
 4. *Temporary monitoring escalation to verify receiving environment effects.*
- iii. *Require root cause analysis of any discharge exceedance, including recording of the event timeline, contributing factors, lessons learned and changes to be implemented.*
- iv. *Be reviewed at least once every two years or following any event resulting in non-compliance with discharge quality limits and updated accordingly.*

278. I broadly agree with Mr Shoebridge's suggestion that there should be a standalone Contingency and Incident Response Plan that addresses the matters set out above. I also note that the identification of contingency measures for some aspects of the plant are required by the Enforcement Orders. I also consider that this relief would align with the matters relevant to contingency plans sought by Queenstown Lakes Community Action. I have recommended some slight updates to the condition provided by Mr Shoebridge in the suggested consent conditions. The updates that I have made include an explicit requirement for the Plan to set out contingency measures if the necessary flow and dilution cannot be achieved at the point of discharge into the Shotover River/Kimiākau, and to align with the requirements under the enforcement order.

279. With regards to the suggestion raised in Queenstown Lakes Community Action's submission for the applicant to utilise the existing DAD to provide further emergency backup, I have not seen any details from the Applicant that suggest this forms part of their proposal. As it currently stands, the Applicant seeks to repurpose existing oxidation ponds at the site as treated wastewater emergency storage ponds and use these as necessary to mitigate potential adverse effects on the environment or to ensure compliance with the other proposed consent conditions.²⁴ Given this, I have not considered the emergency land based discharge to the DAD further.

Progress towards the long term wastewater discharge solution

280. Submissions from Queenstown Lakes Community Action, Kāi Tahu ki Otago and Nga Papatipu Runanka ki Murihiku cite progress towards the long term wastewater discharge solution as a key aspect of interest in their submissions.

²⁴ I note this is specified at Order 1.10.

281. The Applicant has proposed consent conditions setting out milestones that must be achieved during the transition to the long-term wastewater disposal system. The Applicant's proposed conditions require amendment to better alignment with Enforcement Order 1.19.
282. To measure compliance towards achieving the milestones in the proposed consent conditions, the Applicant has also proposed a consent condition requiring the submission of a progress report every six months to the ORC, Aukaha Ltd and Te Ao Mārama Inc detailing the progress made towards meeting the deadlines set in the Enforcement Order and the proposed conditions of consent. The Enforcement Order already requires monthly progress reporting to ORC (Order 1.11) but the provision of a six-monthly report to Kāi Tahu ki Otago and Nga Papatipu Runanka ki Murihiku may go some way to alleviating their concern about progress towards the long-term solution.
283. Given the milestones set out in ORC's proposed consent conditions have been included in an Enforcement Order from the Environment Court, I have not considered them further.

Ammonia impacts in the Shotover River

284. Dr Greer's advice also includes commentary on ammonia concentrations in the River, noting that they are the highest that he has seen recorded in any river type. The Applicant's S92 RFI response attributes high ammonia concentrations to the DAD and considers that groundwater conditions and contaminant movement via groundwater to surface water are predicted to reduce over time.
285. Dr Greer raises concern about the duration over which these effects may continue to occur and considers this input presents a further risk of ammonia toxicity effects in a river where such risks are already far higher than one would expect based on hydrology, land use and catchment characteristics. As discussed in the effects on groundwater quality section below, Mr Baker's advice is that shallow groundwater is heavily impacted by the WWTP and DAD discharge. Mr Baker agrees with the Applicant that ceasing the DAD discharge may result in groundwater quality improvements at the site and surrounds.
286. I acknowledge Dr Greer's advice on this matter. At this stage, the Applicant proposes to surrender that discharge permit within 1 month of the first exercise of RM25.206 (if granted) and have proposed a condition to that effect. To date there has been no information provided with respect to the potential for cumulative effects of the treated wastewater discharge associated with legacy effects from the DAD. This is a gap that requires further consideration during the Court process.

Effects arising from the placement of a structure on the bed of the Shotover River/Kimiākau (RM25.206 and RM25.177)

287. The Applicant seeks consent to disturb the bed of the Shotover River/Kimiākau by constructing the proposed outfall structure in and on the bed, and to construct the diversion channel. The specifics of these structures and a summary of the proposed construction methodology is set out in the earlier sections of this report.

Disturbance of the bed associated with placement of the outfall structure

288. The Applicant considers the potential effects arising from disturbance of the bed associated with the proposed outfall structure on freshwater ecology to be very low. This is because:
- a. The footprint of bed disturbance is small and in the immediate vicinity of the outfall structure and will be of short duration;

- b. Work to construct the structure will be completed at times of low river flows and the associated discharge of will be controlled as required to ensure the majority of disturbance works are undertaken in dry conditions;
 - c. All erosion and sediment control measures will be implemented in accordance with best practice guidance²⁵; and
 - d. Once works are completed, the structures will reduce erosion locally and have the potential to provide a stable refuge for freshwater fauna in periods of high flow.
289. Dr Greer agrees with the assessment of this effect provided by the Applicant. The Applicant did not propose consent conditions for this aspect of the proposal. I have suggested consent conditions that reflect the proposal as set out above. Overall, I consider the effects on surface water quality and aquatic ecology associated with the disturbance of the bed to place the outfall structure will be appropriately mitigated by the imposition of conditions.

Disturbance of the bed associated with construction of the diversion channel

290. The Applicant considers any surface water quality or aquatic ecology effects arising from the construction of the proposed diversion channel will be less than minor because:
- a. Works will be completed in the 'dry' to the extent possible to minimise time spent in flowing water;
 - b. All erosion and sediment control measures will be implemented in accordance with best practice guidance²⁶;
 - c. Spill kits will be present onsite and refuelling of machinery will be undertaken at least 20 metres from flowing water; and
 - d. All machinery and vehicles used will be well maintained and washed prior to undertaking works.
291. While the instream works may occur during the fish spawning season, the temporary localised nature of the works is not expected to significantly adversely affect fish spawning processes or habitat.
292. The Applicant has also volunteered conditions that would require fish passage to not be impeded by the proposed works and for any fish that may become stranded in isolated channels or pools to be relocated to other parts of the Shotover River/Kimiākau under the supervision of a qualified freshwater ecologist.
293. As mentioned in the earlier sections, the Applicant has said that that further technical work is required to confirm the adequacy of proposed dimensions and configuration of the proposed diversion channel. Given the dynamic environment of the River, the diversion channel will likely require ongoing maintenance and reestablishment. At this stage, the frequency of such works is unknown.
294. In terms of the ecological effects arising from the proposed bed disturbance works, Dr Greer's advice generally agrees with the assessment undertaken by the Applicant that there will likely be less than minor effects on water quality and aquatic ecology, based on the mitigation measures proposed.

²⁵ Contained in Auckland Council Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region (2015-005).

²⁶ Contained in Auckland Council Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region (2015-005).

295. The Applicant proposed consent conditions for this aspect of the proposal in its original application. I have recommended amendments to the proposed consent conditions that reflect key aspects of the proposal as set out above. Overall, I consider the effects on surface water quality and aquatic ecology associated with the disturbance of the bed associated with construction of the diversion channel will be appropriately mitigated subject to compliance with the suggested conditions.

Discharge of sediment associated with construction of the diversion channel

296. The Applicant identifies that potential sources of sediment discharged to the Shotover River/Kimiākau resulting from works will be limited to the first flush of loose material when the diversion commences. This is expected to be of a short duration and would naturally be suspended in a high flow event. Based on adherence to the range of construction methodology measures as set out in the assessment above, the Applicant considers the effects associated with the discharge of sediment are likely to be less than minor.
297. Dr Greer's advice generally aligns with the Applicant's assessment of this effect.
298. The Applicant did not propose consent conditions for this aspect of the proposal. I consider a number of the recommended consent conditions discussed above will appropriately mitigate the surface water quality and aquatic ecology effects associated with the discharge of sediment resulting from construction of the diversion channel.

Effects arising from the diversion of water within the bed of the Shotover River/Kimiākau (RM25.177)

299. The diversion of water in the bed of a river can cause adverse effects on aquatic ecosystems, particularly habitat availability and suitability within the impacted extent of the bed. The Applicant proposed a year-round diversion of 2.5m³/s to reduce the visible impacts of the treated wastewater discharge under very low flow conditions.
300. The Applicant does not consider the diversion will have any discernible effect on hydrology of the Shotover River/Kimiākau during moderate to high flows. Based on this, minimal effects on ecological values are expected by the Applicant during moderate to high flows in the River.
301. Dr Greer's advice agrees with the Applicant's assessment that at moderate and high flows there will be minimal impact on the hydrology of the main braid because the diversion will be low volume relative to the Mean Annual Low Flow (MALF). Dr Greer accepts there is little risk of widespread fish stranding across large areas of newly exposed bed post livening of the diversion channel or impeded fish passage.
302. The proposed diversion is expected to be most noticeable during and preceding naturally occurring low flow periods. The Applicant states that the Shotover River/Kimiākau naturally experiences low flows, but these appear to be for short periods of time with flashes/higher flow events being relatively frequent. The Applicant considers the following effects may occur within the 430 metre length of the reach of the Shotover River/Kimiākau adjacent to the diversion channel during low and very low flow conditions:
- a. Slight reduction in the wetted width and total wetted area of the main channel and a reduction in depth in areas that remain wet. This could lead to changes in water velocity and habitat availability for macroinvertebrates and fish;
 - b. Warmer water temperatures and increased periphyton growth in the main channel for short periods between high flow events; and
 - c. Slight increase in the frequency and duration of low flow events.

303. The Applicant acknowledges that the magnitude and duration of potential changes to hydrology and subsequent effects on ecology due to the diversion cannot be determined by the information available at this time. However, it is expected that changes to macroinvertebrate community composition will be similar to those that naturally occur in any given year in response to lower flows. The Applicant expects that the 'low-flow' macroinvertebrate composition (and the habitat compositions driving these) will be 'reset' following a flood event. It is considered possible that 'low-flow conditions' will be brought on earlier and occur for a longer period of time until the next fresh or flood resets the river system.
304. Dr Greer's advice agrees with the Applicant's assessment that there may be a slight reduction in the wetted width and total wetted area of the main channel and a reduction in areas that remain wet. Dr Greer goes on to state that, in his opinion, there are likely to be negligible impacts on habitat availability at the river reach scale, given the offsetting effects of habitat creation in the diversion channel.
305. Based on the advice of Dr Greer, I consider the impacts on surface water quality and aquatic ecology arising from the diversion of water are negligible.

Effects on human health (including contact recreation and drinking water) and amenity arising from the discharge of treated wastewater to the Shotover River/Kimiākau (RM25.206)

306. Adverse effects on human health can arise from both contact recreation, and food gathering when people are exposed to water that has been contaminated with faecal sources. Adverse effects on human health can also occur as a result of the impacts of a wastewater discharge on drinking water supplies. The Kawarau WCO requires that certain outstanding values are recognised and protected. Of relevance to this effect, the use of water for recreational purposes, in particular rafting, kayaking and jetboating is identified as a value that requires recognition and protection.
307. This was a key concern cited by many submitters opposing the grant of resource consents sought. The submission from Dr Shayne Galloway places particular emphasis on protecting recreation-based well-being and considers that the proposed activities would have a range of negative effects on recreation, access, safety and enjoyment. Dr Galloway's submission also considers that while the discharge may meet the required standards, the perception of pollution may mean that river users do not engage with the Shotover River/Kimiākau as they might otherwise. Ultimately, Dr Galloway raises concern that the proposed infrastructure and discharges to the Shotover River/Kimiākau will diminish the River's capacity to support recreation-related well-being and is contrary to the Kawarau WCO. Similarly, the submission made by Whitewater NZ seeks that the applications be declined due to unacceptable recreation and amenity effects and inconsistency with the Kawarau WCO. Both submissions make reference to the IPBES²⁷ Nature's Contributions to People (NCP) and ecosystem services frameworks.
308. The submission from the Director-General of Conservation highlights that the Kawarau WCO requires water quality to be managed to a Class CR standard (i.e: must be managed for 'contact recreation' purposes which includes requirements that the water must be suitable for swimming).
309. The Applicant has provided an assessment of effects on human and public health. This assessment focuses on *E.coli* as the measure of health risk. Dr Greer's advice is that *E.coli* is a poor indicator of health risk from wastewater and a Quantitative Microbial Risk Assessment (QMRA) is required. The Applicant has provided an assessment in the Section 92 RFI response, noting that the RPW post dates the WCO and the

²⁷ Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

requirements of the WCO are incorporated into the direction and provisions of the RPW.

310. I agree that the RPW incorporates the direction and values of the WCO. However, I consider the WCO remains a standalone statutory instrument that must be considered in addition to the RPW. While the Applicant considers that contact recreation standards will be met, Dr Greer identifies some uncertainty because the Applicant has not yet provided sufficient information to support its conclusions. I consider this is a key aspect of the application that requires further consideration through the Court process.
311. Subject to the discharge, after reasonable mixing, meeting the appropriate standards for contact recreation as anticipated by the Applicant, I consider contact recreation as a significant value can be protected.
312. To prevent human contact with treated wastewater in the discharge channel, the Applicant proposes to install permanent fencing and signage. Signage is also installed immediately downstream of the outfall on the river banks. The Applicant considers this to be sufficient to prevent human contact with the discharge within and immediately exiting the discharge channel.
313. A submission in support of granting the applications from Mr Lester considers the signage by the Shotover River/Kimiākau should be provided in more languages, not just English and Te Reo. Given the proximity of the Queenstown Trail to the discharge channel, I consider this suggestion is reasonable.
314. The submission from Queenstown Lakes Community Action considers that the application should not be granted in its current form, due to a lack of independent assessment of the potential effects on downstream drinking-water sources.
315. The Applicant has undertaken an assessment of nearby drinking water-sources, noting that the nearest supply that provides drinking water to greater than 501 people is the township of Cromwell. There is a smaller take located approximately 11 kilometres downstream of the discharge for Queenstown Bungy which appears to be from a tributary to the Kawarau River and not the Kawarau River itself. The Applicant acknowledges that there may be drinking water takes from the Shotover River/Kimiākau and/or the Kawarau River that are not identified on Otago Maps as they are undertaken as permitted activities in accordance with the RPW.
316. I have undertaken an audit of the Applicant's assessment of nearby drinking water supplies and agree with the Applicant's assessment.
317. In the absence of further evidence confirming unregistered drinking water takes in the near vicinity of the discharge at this time, and given the substantial distance to identified drinking water supplies, I consider it unlikely that the activity will result in adverse effects on downstream drinking-water supplies. I also note that impacts on drinking water supplies have not been identified as a concern amongst the ORC technical experts. On this basis, while some uncertainty exists regarding small permitted activity supplies, I do not consider that a more detailed assessment of effects on drinking-water sources is required at this time.
318. In addition to the recreational uses specified by the Kawarau WCO, the lower Shotover River is also used for commercial gravel extraction operations as represented by the number of resource consents authorising the extraction of gravel. I consider that the impacts on human health as a result of the Shotover River/Kimiākau being used for this purpose are a workplace health and safety matter and I have not considered the human health impacts arising from this use further.
319. Overall, while the Applicant has concluded that the proposal will not give rise to adverse human health effects, expert advice indicates that there remains uncertainty in relation to the level of risk posed to contact recreation because the risk has not been

thoroughly investigated at this time. I consider that this uncertainty is a key aspect that will require further exploration through the Court process.

Effects on geomorphology, flow variability and flood carrying capacity of the Shotover River/Kimiākau (RM25.206 and RM25.177)

320. The discharge of treated wastewater proposed could impact on the geomorphology, flow variability and flood carrying capacity of the Shotover River/Kimiākau. The placement of a structure on the bed of the Shotover River/Kimiākau and diversion of water may alter the bed of the river causing geomorphological, flow variability and flood carrying capacity effects.
321. Submissions received from Dr Shayne Galloway and Whitewater NZ Incorporated oppose the applications in full, citing the potential impacts on geomorphology and modification of the natural braidplain and inconsistency with the relevant aspects of the WCO.
322. I have undertaken an audit of the Applicant's assessment of each activity and the potential effects on geomorphology, flow variability and flood carrying capacity in the sub-sections below. I have relied on the advice of Mr Baker and Dr McConchie when undertaking this audit.

Arising from the discharge of treated wastewater to the Shotover River/Kimiākau (RM25.206)

323. The Applicant considers the proposed discharge will not have a measurable influence on river flow, river level or the extent of the braided river channel. Overall, the Applicant expects potential effects on river hydrology to be negligible.
324. Mr Baker has reviewed the Applicant's assessments and provided a technical memorandum on the effects of the proposed discharge on the hydrological functioning of the river. Mr Baker considers the effects from the proposed discharge to be relatively minor and manageable given the maximum flow rate of 400L/s is approximately 2% of the MALF of the Shotover River/Kimiākau and <1% of the Kawarau River MALF. I therefore consider that from a flow and capacity perspective, the discharge will have a negligible effect on the River.

Arising from the placement of a discharge outfall structure and diversion channel on the bed of the Shotover River/Kimiākau (RM25.206 and RM25.177)

325. The placement of structures in the bed of the river can cause impacts on river geomorphology, flow variability and flood carrying capacity. I have relied on the technical advice of Mr Baker and Dr McConchie.

Placement of an outfall structure on the bed

326. The Applicant considers there will be no change in the hydrology of the river as a result of the minor works associated with the outfall structure. This is because the proposed design features comprising of gabions and rip rap are designed to integrate with the dynamic characteristics of the braided river. The Applicant expects the structures will prevent localised scouring, protecting both the channel structure and riverbank and allow adaptation as needed following major flood events.
327. Mr Baker has reviewed the Applicant's proposal and assessments and considers they are appropriate from a hydrological and geomorphological perspective.
328. The Applicant did not propose conditions for the placement of an outfall structure on the bed of a River. I have suggested a range of conditions that are reflective of the Applicant's proposal. These include conditions requiring works to be undertaken during periods of low flow in the Shotover River/Kimiākau (or where this is not possible, the works area being isolated from the River) and conditions requiring the works to not cause any erosion, scour or instability in the bed or banks of the River. I consider the

effects arising from the placement of an outfall structure on the bed of the Shotover River/Kimiākau are able to be mitigated.

Placement of the diversion channel on the bed

329. The Applicant considers that the design of the diversion channel generally mimics a river braid, and over time, movement of the river gravels is expected to provide a more natural form and likely establishment of the channel as a natural braid. Movement and displacement of minor braids within the broader riverbed is an ongoing natural occurrence, with nearby gravel extraction activities by third parties already promoting localised river braid movement of braids. To accommodate the dynamic nature of the river and achieve the necessary targets for dilution, the Applicant considers that the location of the diversion channel and its extent will need to change over time (this is the reason for a diversion zone being proposed instead of an exact location). The channel will also require periodic reinstatement and maintenance works due to the nature of the braided river.
330. The diversion channel, and any maintenance works, are not expected to result in changes to the river morphology or hydrology that are out of character with the current river environment. Overall, the Applicant considers that the potential adverse effects associated with the proposed diversion channel are limited to the potential ecological effects discussed in the earlier sections of this report.
331. Proposed works to construct, maintain and potentially reconstruct the diversion channel are cited by the submissions of Dr Galloway and Whitewater NZ Incorporated as not providing for the wild, scenic and natural characteristics sought to be protected by the WCO.
332. As acknowledged in the sections above, the design of the proposed diversion channel is at a high level at this stage. Dr McConchie highlights the conceptual nature of the design provided and considers that there is limited quantitative data provided. The Applicant has acknowledged that further detailed design is required, including further details of river morphology, bathometric data and flow measurements to confirm the adequacy of the proposed dimensions and configuration.
333. Dr McConchie's advice is that the proposal is a pragmatic and practical solution to address the immediate and safe disposal of treated wastewater to the Shotover River. Given the level of uncertainty, it is Dr McConchie's advice that the current level of uncertainty needs to be balanced by a suite of conditions to ensure performance of the final system and monitor potential effects that may result. Dr McConchie makes a number of recommendations that should be included as conditions of resource consent. These include:
334. Confirmation of the final design and how it integrates into the existing environment;
 - a. Confirmation that the final hydrological and hydraulic effects of the design are within the umbrella of effects considered during the consenting process;
 - b. Development of a Monitoring and Management Plan to be agreed to by the ORC;
 - c. Continuous monitoring of the flow rate and hydrological effects of the diversion relative to the discharge measured in the Shotover River/Kimiākau at Bowens Peak to ensure these are within the limits discussed during the consenting process;
 - d. Monitoring of bed levels in the Shotover River/Kimiākau both at the invert to the diversion and discharge from the diversion;
 - e. Monitoring the morphology of the bed of the Shotover River/Kimiākau annually throughout the duration of the consent to ensure that the diversion causes no change to the existing form and character of the bed;

- f. Annual reporting; and
 - g. Review of the design should any effects be observed which are outside of the limits considered during the consenting process.
335. The advice from Dr McConchie also notes that there is considerable uncertainty regarding the performance of the proposed system during larger floods in the River. The Applicant has not provided information on how often such events would likely occur, timeframes for reinstating the channel or what is intended to occur to ensure adequate dilution of the treated wastewater discharge while the channel is being reinstated. These concerns are similar to those of Dr Greer, given the importance of the diversion and diversion channel when assessing the significance of effects on surface water quality arising from the treated wastewater discharge. I consider this aspect of the proposal will need to be explored further through the Court process, given its critical importance.
336. I consider there is a high level of consistency in the consent conditions recommended in the advice of Dr McConchie and Dr Greer, mostly due to the conceptual nature of the diversion channel design and reliability of the diversion. As set out in the audit undertaken above, if consent is granted, I consider that a condition requiring a management and monitoring plan approach is appropriate in this instance. In addition to the flow based information I have recommended be included with regards to the diversion, I also consider that, if consent is granted, the monitoring and management plan should include confirmation of the final design (if not finalised before hearing), procedures to validate that the resulting hydrological and hydraulic effects of the diversion channel placement remain within the scope of the consented parameters and surveying of bed levels and river morphology to ensure no unexpected change to bed form or character occurs as a result of the proposed works. I also recommend that the plan should include annual reporting requirements of the information listed above, with provisions for review and adaptive response should monitoring identify effects that were not expected in assessments undertaken by the Applicant.
337. Based on the advice of Dr McConchie provided at this stage, while there will be modification of the river bed in this location and there is some uncertainty associated with the detailed design aspects and monitoring of the diversion channel, I consider the potential effects are able to be appropriately managed within the dynamic context of the River.

Effects arising from the diversion of water within the bed of the Shotover River/Kimiākau (RM25.177)

338. The Applicant has provided a high-level assessment of this effect in the Section 92 RFI response. The Applicant is proposing to divert up to 2.5m³/s at all times of the year to ensure sufficient dilution of treated wastewater at the downstream extent of the zone of reasonable mixing (defined as 170 metres downstream of the discharge point). The Applicant also proposes to undertake in-river works to ensure a minimum flow of 1m³/s is flowing in the braid adjacent to the diversion channel. The Applicant highlights that the proposed diversion is non-consumptive (stays within the river system) and constitutes less than 20% of the river's MALF.
339. The Applicant lodged an ecological assessment to support the proposed diversion, which states that the potential changes to hydrology caused by the diversion cannot be determined by the information available at this time. It is considered possible that, as a result of the diversion, 'low-flow conditions' will be brought on earlier and occur for a longer period of time until the next fresh resets the river system. The Applicant does not anticipate adverse effects on the ORC's training line as the works are not in close proximity to the asset.

340. The ORC's adviser, Dr McConchie considers the assessment provided by the Applicant in response to the Section 92 request was more opinion and assumption than fact and notes that none of the substantive matters associated with the proposed diversion channel are addressed in a quantitative matter. Dr McConchie's advice states the following:
- a. *"Given the lack of data and information provided, and the uncertainty regarding the final design, there is also uncertainty over the potential effects of what is proposed. However, given the scale of the discharge relative to flow in the Shotover River and the dynamics of the riverbed any effects are likely, in my opinion, to be less than minor."*
341. Based on the information provided and advice of Dr McConchie, I consider that the proposed diversion represents a relatively small proportion of the overall River flow, is non-consumptive and is unlikely to result in material alteration to the overall hydrology or flow variability of the River system. Overall I consider that any adverse effects associated with the diversion of water are likely to be no more than minor.

Effects on avifauna within the Shotover River/Kimiākau (RM25.206 and RM25.177)

342. The bed disturbance activities proposed have the potential to influence avifauna at the site and have impacts on feeding, roosting, breeding or other behaviours. The Applicant has provided an assessment of effects relating to the proposed works associated with the diversion channel and the outfall on avifauna.
343. Neutral submissions were received from the Director-General of Conservation and Queenstown Airport Corporation Limited. The submission from the Director-General of Conservation cites avifauna effects as a reason for her/his submission and notes support for the Applicant's proposed consent conditions that set out a process to minimise the risk of disturbance to birds during the breeding and egg-laying period for braided river species. Queenstown Airport Corporation Limited seek that effects of wildlife management, in particular the risk of bird strike on aircraft is as low as reasonably possible.
344. I have audited the Applicant's assessments in the subsections below and have relied on the advice of Mr Shaw when undertaking this audit.

Placement of the diversion channel on the bed (RM25.177)

345. The Applicant identifies potential effects on nesting birds to be the key terrestrial ecology risk associated with the proposed diversion works. The Applicant reports that the breeding and egg-laying period is from August to March (approximately) with the core months understood to be August through to January). To avoid disturbing nesting birds through the core period the Applicant has proposed a condition that would require access and disturbance to the riverbed to be avoided between from 1 August to 31 January each year, unless an exemption is granted by the Department of Conservation.
346. The Applicant's proposal is that granting of an exemption would require a suitably qualified and independent ornithologist/ecologist to undertake a survey of the works area and a 100 metre radius surrounding the site (including access routes and the diversion works area) to identify any potential bird nesting sites. The survey would need to be taken 72 hours prior to works commencing and be submitted to the Department of Conservation. The survey would be required to provide recommendations that must be adhered to throughout the works.
347. Based on adherence to this exemption process, the Applicant considers the proposal will have a less than minor effect on avifauna.
348. Mr Shaw considers the approach to minimise impacts during the breeding season, when impacts are expected to be greatest, is a reasonable approach. Mr Shaw has

reviewed the exemption approach proposed by the Applicant and considers the measures to be pragmatic and should sufficiently mitigate the potential impacts.

349. Overall, Mr Shaw agrees with the assessment undertaken by the Applicant and conclusions made but considers the presence of machinery just prior to breeding season may prevent birds that had intended to breed in that area from establishing nests. Mr Shaw's advice is that the project's duration will determine how significant the residual risk is. As set out in the preceding sections of this report, the Applicant acknowledges that the effects of maintaining and/or reinstating the diversion channel is unknown at this stage as it will depend on the nature of the river over time.
350. Mr Shaw was asked to advise on whether minimum requirements could be imposed, he suggested that:
- a. Surveys for nesting birds are completed to a radius of at least 200 metres from the project site;
 - b. There is no prolonged noisy works (work for over an hour at more than 55 decibels) within 200 metres of a known active nest of a protected bird species; and
 - c. Avoidance of any works within 50 metres of a known active nest of a bird species.
351. Mr Shaw agreed "indigenous" could be substituted for "protected bird species."
352. The consent conditions proposed by the Applicant require a nest survey to be undertaken no less than 72 hours prior to any works commencing. I consider that this may mean that there will be a period of time no less than 72 hours where the diversion channel may require modification or reconstruction and the treated wastewater discharge is occurring. Similarly, the proposed consent conditions require that the Department of Conservation provide 'approval' of the submitted report prior to the bed disturbance works occurring. Consequently, the diversion channel may require modification or reconstruction for an unknown period of time prior to the bed disturbance works actually taking place.
353. I consider that the implementation of this proposed process may conflict with the Applicant's proposal to ensure that the discharge is always to flowing water at the flow rates proposed. I also consider that the wording of this condition will mean the Department of Conservation will have the reserved power to approve or disapprove of the disturbance activity occurring for a significant period of the year. In addition to the minimum requirements suggested by Mr Shaw, I also suggest the condition is amended so that the ORC certifies the report and recommendations with a copy of that certification provided to the Department of Conservation within a specific timeframe.
354. From an avifauna perspective Mr Shaw notes that it would be prudent, if possible, to anticipate any maintenance works and complete these prior to the commencement of the breeding season. I consider that further discussion on implementation of the proposed consent conditions may assist with reconciling how this scenario would occur.
355. Based on the advice from Mr Shaw and the implementation of the proposed consent conditions I consider the effects on avifauna may be able to be mitigated, but the lack of detail in the Applicant's proposal at this time makes it difficult to determine whether the effects can be adequately mitigated.

Placement of an outfall structure on the bed (RM25.206)

356. The Applicant considers the effects on avifauna arising from the placement of an outfall structure on the bed of the Shotover River/Kimiākau to be less than minor. Based on the advice provided by Mr Shaw for both RM25.177 and RM25.206, construction of the proposed outfall structure could disturb nearby nesting birds if not appropriately

managed. I have proposed bird disturbance conditions parallel to those proposed for the diversion channel works. This is based on the advice of Ms Dawn Palmer who considers that the works, provided they do not extend into the open riverbed or create more open water habitats, will not impact waterfowl, terns, gulls and waders. The Applicant proposes to adopt a condition of resource consent that requires design plans and installation methodology for the outfall structure to be developed in consultation with an avifauna specialist.

357. Mr Shaw agrees with the advice of Ms Palmer. It is noted by Mr Shaw that Ms Palmer has collected sufficient data from the site and surrounds over many years to make a considered assessment of effects. Mr Shaw's advice suggests that, if it does not occur already, bird surveys undertaken by the Applicant should also occur at the project site so that a baseline data set is established and future potential impacts can be assessed.
358. In response to Ms Palmer's advice that works should not extend into the open river bed (which she does not define in her technical reports provided with the application documents), the Applicant's proposal is to establish an outfall structure with a construction footprint of approximately 120 – 150m². Based on this aspect of the proposal, I consider the works could generally be considered of small scale relative to the wider River. In terms of impacts on avifauna as a result of bed disturbance, I consider the effects on avifauna may be able to be mitigated, but further detail is required to determine whether the effects can be adequately mitigated.

Effects on the operation of Queenstown International Airport Corporation Limited

359. Enforcement Order 1.21 requires the QLDC to design, develop and implement any short term solution so that it does not attract any birds that are hazardous to aircraft or may endanger aircraft operations. The Order states that *"bird species that have been observed at the airport and which may be hazardous to aircraft are gull, oyster catcher, hawk, spur-wing plover and duck."*
360. I consider there is some uncertainty in determining impacts on the nearby Queenstown Airport Corporation Limited (QACL) operations, in particular the aviation safety risk of bird strike at this time. The Applicant's proposed approach as it currently stands will mean that mitigation of the potential bird attractant risk will be deferred to the avifauna expert consulted with during the development of design plans and installation of the outfall. I consider this aspect requires further discussion as the process continues to ensure Order 1.21 can be met and the concerns identified in QACL's submission can be mitigated to an acceptable threshold by the imposition of specific conditions.

Effects on recreational and commercial users of the Shotover River/Kimiākau (RM25.206 and RM25.177)

361. The human health effects associated with the proposed discharge of treated wastewater are assessed in the above sections. This audit of the Applicant's assessment is limited to the effects on recreational and commercial users of the Shotover River/Kimiākau and riparian margins as a result of the proposed placement of the outfall structure, diversion channel and the proposed diversion of water. The Applicant considers that, overall, the impacts on recreation and commercial users of the Shotover River/Kimiākau will be less than minor.
362. Recreational uses considered here include the use of the Shotover River/Kimiākau for rafting, kayaking and jetboating. Commercial uses referred to here include the use of the riverbed for gravel extraction and jetboating.
363. As set out in the assessments above, two submitters, Dr Galloway and Whitewater NZ raised concern about the effect of the activities on recreation and amenity and suggested the activities would be inconsistent with the Kawarau WCO.

364. The submission received from Kowarau Jet Services Limited states that it operates commercial jet board trips in the area of the Shotover River/Kimiākau where the diversion channel is proposed to be located and states that changes to the flow path of the river can impact on their ability to safely undertake consented jet boat trips on the River. It seeks a detailed plan when water levels of braid distribution changes and communication with the Applicant to mitigate any disruption to its business.
365. I have undertaken an audit of the Applicant's assessment below.

Effects associated with the discharge channel structure (RM25.206)

366. The Applicant considers the key risk to recreational users outside the riverbed is where the Queenstown trail passes over the discharge channel. The Applicant has installed safety fencing on either side of the discharge channel and signage to alert recreational users to its presence.

Effects associated with the placement of the diversion channel and diversion of water (RM25.177)

367. The Applicant states that given the localised nature of the proposed diversion (~400 metres) there are unlikely to be any adverse effects on those who use the river for recreation such as jetboating and kayaking as sufficient flow will remain in the adjacent reach for recreational purposes.
368. As set out in the audit of the Applicant's assessments above, the impacts on flow variability and hydrology as a result of the proposed diversion of water are considered to be relatively minor.
369. I understand from discussions with the Applicant that further engagement is occurring with Kowarau Jet Services Limited on how both operations can be managed within the riverbed. Depending on the outcome of these discussions, I consider there could be additional conditions proposed by the Applicant to resolve the concerns raised in their submission. The Applicant has proposed a condition requiring notification of applicable commercial jet boat operators of the date and nature of the diversion channel works. I have suggested such a condition as a placeholder that can be updated during this process.
370. The proposal introduces new infrastructure in an area of the Shotover River/Kimiākau that is protected for high recreational values under the Kowarau WCO and is used commercially for recreation.
371. While the Applicant considers that effects will be less than minor, submissions highlight concern that any change in flow paths, access, or perceptions of water quality may adversely affect recreation-based enjoyment and the ability of commercial users to undertake their operations safely. Based on the technical advice from Dr McConchie and Dr Greer to date, the physical works and associated diversion are expected to result in only localised and relatively minor changes to hydrology and flow variability, and will not preclude ongoing recreational use of the river. However, some uncertainty remains regarding the frequency and extent of future maintenance works and potential impacts on commercial jetboating operations. Based on the information I have reviewed, I consider that these uncertainties be addressed through recommended conditions requiring continued engagement with Kowarau Jet Services Limited to avoid disruption to commercial activity. Subject to these conditions being incorporated, and subject to the receipt of new information, I am satisfied that any adverse effects on recreational and commercial users can be avoided or mitigated to an acceptable level.

Effects on groundwater levels, flows and quality arising from the discharge of treated wastewater to the Shotover River/Kimiākau (RM25.206)

372. As treated wastewater flows along the discharge channel some may infiltrate to ground along the base and sides of the channel. This has potential to result in:

- a. Changes in groundwater levels, including mounding effects adjacent to and downgradient of the channel; and
 - b. Groundwater quality effects due to wastewater seepage to ground.
373. I have undertaken an audit of the Applicant's assessment under the subheadings below and have relied on the advice of Mr Baker when undertaking this audit.

Effects on groundwater levels and flows associated with the discharge of treated wastewater to land within the discharge channel (RM25.206)

374. The Applicant considers that effects on groundwater levels and flows will be less than minor. This is due to sand gravels underlying the discharge channel being highly permeable and allowing high rates of horizontal flow. This means that any treated wastewater discharged to land is expected to move laterally away with any groundwater effects being negligible.
375. ORC's advisor, Mr Baker, agrees with the Applicant's assessment and says that levels will only be impacted in the immediate vicinity of the discharge channel and will likely be masked by the natural variability in groundwater levels.
376. Based on Mr Baker's advice, I consider the effects on groundwater levels and flows resulting from the discharge of treated wastewater to land within the discharge channel will be negligible.

Effects on groundwater quality associated with the discharge of treated wastewater (RM25.206)

377. Queenstown Lakes Community Action considers that the application should not be granted in its current form due to there being no independent assessment of the potential effects on groundwater and connected aquifers.
378. The Applicant considers that any ongoing effects on groundwater quality are likely to be negligible and undoubtedly less than minor. The Applicant's assessment shows that groundwater downgradient of the discharge has been heavily influenced by the WWTP and disposal to land via the DAD. The discharge method to water is likely to result in improvements in groundwater quality both within the vicinity of the discharge channel and the wider delta given the reduced volume of treated wastewater being discharged to land.
379. In relation to impacts on groundwater quality upgradient of the discharge channel, the Applicant considers the hydrological regime of the site and surrounds limits the potential effects to the delta area and the immediate river environment.
380. Mr Baker's advice is that shallow groundwater is heavily impacted by the WWTP and DAD discharge. Mr Baker agrees that ceasing the discharge to the DAD discharge may result in groundwater quality improvements at the site and surrounds.
381. Based on Mr Baker's advice, I consider the effects on groundwater quality resulting from the discharge of treated wastewater will be negligible.

Effects on the characteristics (other than recreation) of the Shotover River/Kimiākau and Kawarau Rivers

382. The Kawarau WCO identifies that the "wild and scenic" characteristics of the Shotover River/Kimiākau and Kawarau Rivers must be sustained.
383. The Applicant has not provided an assessment of effects of the applications on the wild and scenic characteristics of the Rivers.
384. In assessing this effect, I note that the proposed diversion channel area is within a modified extent of the Shotover River/Kimiākau with the WWTP, State Highway 6 Bridge and several river based gravel extraction operations present. Based on the advice obtained from ORC's experts, the discharge will not materially alter the natural

flow regimes of the rivers. As stated above, the discharge of treated wastewater is a small in the context of the high flows in both Rivers. The braided character of the Shotover River/Kimiākau will be sustained as a result of the discharge and disturbance works.

385. Dr Greer's advice notes that *"the increase in carbonaceous biochemical oxygen demand is unlikely to be sufficient to increase the risk of heterotrophic growths (sewage fungus) (Quinn, 2009) and this is supported by historical monitoring."* I note that this conclusion is made on the basis of adequate dilution being achieved at the point of discharge, but also takes into account the results of historic ecological monitoring when lower quality treated wastewater was being discharged.
386. Overall, I consider the impacts on the wild and scenic characteristics of the Shotover and Kawarau Rivers to be minimal.
387. Further outstanding characteristics that must be protected by the Kawarau WCO include the natural characteristics and scientific value (that both cite specifically the high natural sediment load and active delta at that confluence with the Kawarau River) and historical purposes (in particular gold mining).
388. In terms of historical purposes as an outstanding characteristic, I do not have any information which shows that characteristic will be impacted as a result of the applications. Similarly, while the applications will likely result in temporary pulse of sediment being discharged due construction works, I do not consider the high natural sediment load will be impacted by the applications. In terms of the active delta confluence with the Kawarau River, based on the advice I have received from Dr McConchie, I do not consider this characteristic will be impacted. Based on this, I consider the other outstanding characteristics of the Shotover River/Kimiākau can be maintained.
389. For the outstanding characteristics of the Kawarau River, based on the advice I have received from Dr McConchie, I do not consider the ability of the Kawarau River to return flow in the upper section when Shotover River/Kimiākau is in high flood. Based on this, I consider the other outstanding characteristics of the Kawarau River can be maintained.

Effects on air quality arising from the discharge of treated wastewater to the Shotover River/Kimiākau (RM25.206)

390. An air discharge permit is required to authorise the discharge of contaminants into air from the discharge of treated wastewater. In this case the contaminant of concern is the discharge of odorous compounds from treated wastewater as it traverses the discharge channel and enters the River. I rely on the advice of Mr Iseli.
391. The Applicant has undertaken a qualitative assessment of the effects associated with the discharge of odour in accordance with the Ministry for the Environment's Good Practice Guide for Assessing and Managing Odour (2016). A FIDOL^{28[OBJ]} assessment has been undertaken. The purpose of this assessment was to characterise the potential offsite odour effects, taking into account the level of treatment of the wastewater, nature of the surrounding environment and metrological conditions. The Applicant has provided a FIDOL assessment at Page 79 of the original application (dated May 2025). Overall, this assessment concludes the discharge is unlikely to cause offensive or objectionable effects because:
 - a. the distance to nearest sensitive receptors (the nearest dwelling is located over 500 metres northeast of the outfall and nearest commercial properties located approximately 500 metres to the west of the outfall); and

²⁸ An assessment of the Frequency, Intensity, Duration, Offensiveness, Location of an odour

- b. the relatively low frequency of light winds experienced at the site which could cause effects.
- 392. The Applicant also addressed cumulative odour effects that may arise as a result of discharges from the WWTP and the discharge channel. The assessment concludes the risk of cumulative effects is low. This is because any odour from the WWTP will not typically coincide with odour from the outfall due to differing emissions strengths, wind conditions and spatial separation. The frequency or duration of odours is not expected to increase as odours from the outfall are unlikely to be observed at off-site locations. Overall, any odour from the WWTP is expected to dominate the odour character, if detected, with the contribution from the discharge channel and outfall location being negligible in comparison.
- 393. The Applicant considers that any odour effects from the discharge of treated wastewater sought to be authorised in this process and cumulatively with the existing WWTP discharge are likely to be less than minor.
- 394. Mr Iseli has reviewed the Applicant's assessment and considers their assessment to be sufficiently robust given the scale and significance of the discharge to air from the outfall and drain. Mr Iseli considers that the FIDOL assessment has been undertaken in accordance with standard practice and is reasonable and supported by the information provided.
- 395. Mr Iseli's advice is that transient recreational users of the Shotover River/Kimiākau and riverbed could experience some odour on brief occasions. But given the standard of wastewater treatment, this is expected to be an earthy/musty type odour of low intensity. Mr Iseli considers odour impacts on these parties are likely to be less than minor.
- 396. Mr Iseli's advice agrees with the conclusions made by the Applicant that the odour effects from the discharge of treated wastewater sought to be authorised in this process, and cumulatively with any discharges from the WWTP, are likely to be less than minor.
- 397. Mr Iseli agrees that a number of mitigation measures proposed by the Applicant (such as implementation of an Odour Management Plan and a complaints record) should form part of the conditions of a resource consent, if granted. In addition, Mr Iseli has recommended the following consent conditions be included:
 - a. *The discharge drain must be maintained to prevent any overflow or ponding of wastewater onto adjacent land;*
 - b. *The discharge must not cause objectionable or offensive odour beyond 50 metres from the outfall and drain;*
 - c. *An updated Odour Management Plan that includes the outfall discharge must be provided to the ORC within two months of commencement of consent; and*
 - d. *The consent holder must maintain a record of any complaints relating to odour. The record shall be provided to the ORC on This must include:*
 - i. *The location where the odour was detected by the complainant;*
 - ii. *Date and time when the odour was detected;*
 - iii. *A description of the wind speed and wind direction when the odour was detected by the complainant;*
 - iv. *The most likely cause of the odour detected; and*
 - v. *Any corrective action undertaken by the consent holder to avoid, remedy or mitigate the odour detected by the complainant.*

398. I have recommended a range of consent conditions that are consistent with those recommended by Mr Iseli. Overall, I consider the effects on air quality are able to be mitigated.

Effects on Cultural Values

399. The discharge of treated wastewater to water and riverbed disturbance works impact cultural values including Kaitiakitanga, Hauora, mauri, ki uta ki tai and Mahika/mahinga kai. The Applicant acknowledges that any discharge of treated wastewater is culturally offensive as it will diminish the mauri of the awa tupuna, threaten the Ki Uta Ki Tai philosophy, and impact on the ability of tangata whenua to exercise culture and traditions, including mahika kai practices.
400. The Applicant provided an assessment of effects on cultural values for each of the applications addressed in this report.
401. In relation to the application lodged under RM25.177 to establish the diversion channel, divert water and discharge sediment, the Applicant proposes to undertake works with an accidental discovery protocol in place and has agreed to include a pounamu discovery condition which is consistent with recently granted gravel extraction consents in the region.
402. In relation to the application lodged under RM25.206 to discharge treated wastewater, discharge contaminants to air and undertake works in the bed to construct an outfall, the Applicant considers effects on cultural values are likely to be more than minor.
403. Both application documents acknowledge that Aukaha Ltd and Te Ao Marama Inc (TAMI) are best placed to assess cultural effects and, at that stage, noted that engagement was underway with each organisation and Ngāi Tahu and is continuing. The Section 92 RFI response provides a Short Form Cultural Impact Assessment from TAMI on behalf of Nga Rūnanga ki Murihiku and a Cultural Position Statement endorsed by Aukaha Ltd Wai Māori representatives. I have briefly summarised each document below:

Short Form Cultural Impact Assessment from TAMI on behalf of Nga Rūnanga ki Murihiku

404. This assessment acknowledges that the Applicant is working closely with TAMI and other experts to work through the complexities of the application and subsequent short-term solution as well as the future long-term solution. The assessment identifies the potential risks of the proposal that are to be avoided to ensure the sustainability of the whenua and wai. This statement also identifies measures which may be able to assist the Applicant to reduce or mitigate risks including a number of consent conditions. If consent is granted, TAMI wishes to see consent conditions that reflect its recommendations made in the cultural impact assessment.

Cultural Position Statement endorsed by Aukaha Ltd Wai Māori representatives

405. This statement notes that the direct discharge of human waste to natural water, almost regardless of the extent of treatment is considered abhorrent by manu whenua. Wastewater which is classified as wai-kino (polluted water) should not be mixed with other categories of water. Instead, natural mixing of wastewater through land, or a similar environment that provides a natural buffer or transition zone is supported by mana whenua. To reiterate, the wastewater leaving a treatment plant is considered tapu (prohibited, restricted, forbidden, to be approached with caution). Treatment through natural processes in the land to reach a state of being noa (free from extensions of tapu, ordinary, unrestricted) is the preferred option.

Submission analysis

406. Submissions were received from Kāi Tahu ki Otago on behalf of Te Rūnanga o Moeraki, Kāti Hurirapa Rūnaka ki Puketeraki, Te Rūnanga o Ōtākou and Hokonui Rūnanga and Nga Papatipu Rūnaka ki Murihiku opposing both applications. Both submissions cite the cultural significance of the Shotover River/Kimiākau and Kawarau River for mahika kai values, as ara tawhito (traditional travel routes) and for a number of values recognised in Schedule 1D of the RPW. Both Rivers are also identified as wāhi tūpuna in the Applicant's proposed district plan.
407. In terms of cultural effects arising as a result of the construction and operation of the diversion channel sought as part of RM25.177, the submission from Kāi Tahu ki Otago considers the diversion channel will be an affront to the mauri of the Shotover River/Kimiākau effectively turning the river into part of the treatment system and creating a wastewater drain. It says that the requirements of the Kawarau WCO will not be protected and asks that the application be declined for these reasons.
408. The submission from Nga Papatipu Rūnaka ki Murihiku is that the establishment, operation and maintenance of the diversion channel will have adverse effects on the cultural landscape and will impact the associated connections and relationships that Ngāi Tahu whānui have with the awa and its surrounding area.
409. In terms of the cultural effects arising as a result of the discharge of treated wastewater to the Shotover River/Kimiākau sought to be authorised as part of RM25.206, the submission from Kāi Tahu ki Otago says that the discharge of human waste to natural water is abhorrent and runs contrary to the longstanding Kāi Tahu position on discharges of human waste to water. Its preferred approach is for the discharge to be to land. Kāi Tahu ki Otago submits that the application does not consider the particular values of the Shotover River/Kimiākau and does not set any standards for the quality of the downstream receiving waters.
410. The submission from Nga Papatipu Rūnaka ki Murihiku seeks to ensure that there are no further adverse effects on mahinga kai species and habitats; the ability to use and access these areas of the River; and water quality, such that water quality is being maintained, improved, or enhanced. Nga Papatipu Rūnaka ki Murihiku also seek to ensure there is no impact on any wāhi tapū, wāhi Ingoa or archaeological sites. Appended to the submission is the Short Form Cultural Impact Assessment which formed part of the Section 92 RFI response provided by the Applicant. Nga Papatipu Rūnaka ki Murihiku consider that insufficient effort has been made to avoid or mitigate the cultural impacts outlined in the cultural impact assessment.
411. I acknowledge the significant concerns raised by Kāi Tahu ki Otago and Nga Papatipu Rūnaka ki Murihiku. The discharge of treated wastewater to natural water, and the associated diversion channel, are activities that fundamentally conflict with cultural values. These concerns are clearly expressed in submissions, and I agree the activities seek to operate within a highly sensitive cultural environment.
412. I agree with the Applicant that the WWTP and discharge are essential for the community's health and wellbeing. In addition, I note that it is a short-term solution driven by the failure of the DAD. However, this does not detract from the cultural effects identified. There is presently limited evidence that cultural effects can be avoided or fully mitigated by the activities for which consents are sought. I consider that some of the measures recommended within the Short Form CIA prepared by TAMI, including enhanced monitoring, cultural oversight, notification and reporting processes, and improved construction protocols, can be incorporated into the suggested consent conditions to reduce the level of cultural impact and better recognise mana whenua interests. In addition, a number of conditions suggested elsewhere in this report, particularly those relating to water quality monitoring, reporting, and improved engagement with river users may also contribute positively to cultural outcomes. But I agree that the implementation of these measures will not alleviate the fundamental

cultural concerns arising from the discharge of treated wastewater to the Shotover River/Kimiākau. I do not consider that fundamental cultural concern can be avoided or fully mitigated if the applications are granted.

413. The submissions from both Kāi Tahu ki Otago and Nga Papatipu Rūnanga ki Murihiku seek the opportunity to develop conditions of consent in conjunction with the Applicant that go some way to mitigate the effects on the values, rights and interests of mana whenua. I support engagement with the submitters in the development of consent conditions that enable some of the impacts on cultural values to be managed if consents are granted.
414. I have included the conditions in the short form CIA into the proposed conditions. These proposed conditions can be refined as this process continues.

Summary of actual and potential effects on the environment

415. I consider that, with the suggested conditions set out in Appendix 2, a number of the effects can be adequately mitigated. These effects include:
- a. Water quality and aquatic ecology impacts as a result of disturbing the bed to construct the diversion channel and outfall into the River;
 - b. Effects on geomorphology, flow variability and flood carrying capacity of the Shotover River/Kimiākau as a result of the discharge of treated wastewater;
 - c. Effects on groundwater levels and groundwater quality associated with the discharge of treated wastewater;
 - d. Effects on the wild and scenic characteristics of the Rivers; and
 - e. Effects on air quality arising from the discharge of treated wastewater to the River.
416. I consider there are several issues that continue to pose uncertainty:
- a. The discharge of treated wastewater will degrade freshwater quality. While historic ecological monitoring data does not support the conclusion that significant ecological impacts are likely, there is a risk that they could occur.
 - b. The reliability of the diversion channel as a mitigation measure for the discharge of treated wastewater within what Dr McConchie describes as a dynamic river environment. Given the likely water quality impacts and risk of ecological impacts as assessed by Dr Greer, I consider it is critical to ensure that the Applicant is able to monitor the diversion channel area and undertake works as soon as possible whenever necessary to repair or reinstate the channel. The ability to undertake works promptly maybe compromised by the proposed bird nesting conditions. There is some uncertainty at this stage associated with the human health effects for contact recreation. While the Applicant considers that contact recreation standards will be met, there is some uncertainty as the Applicant has not provided sufficient information to justify its conclusions.
 - c. There is some uncertainty associated with the bird attraction impacts on the operation of QACL.
417. There are effects on cultural values that are unresolved and appear to be insoluble because of the fundamental cultural concern about the discharge of treated wastewater to the Shotover River/Kimiākau.

Statutory Assessment (Section 104(1)(b))

418. As noted at paragraph [234] of this report, Sections 104-108AA of the RMA provide the statutory framework in which to consider resource consent applications. To minimise the repetition of information included in the application and where I have considered it appropriate, I adopt this information, in accordance with section 42A (1A)

and (1B) of the RMA. I will provide additional commentary below on the objectives and policies that I consider particularly relevant to the application, or where I differ from the Applicant.

National Environmental Standards (NES)

419. I have considered this proposal against the NES-F, NES-AQ and the NES for Sources of Human Drinking Water (NES-SHDW). I have addressed the NES-F and NES-AQ in the sections above, concluding that they are not relevant for assessment. An assessment of the NES-SHDW is provided below.

National Environmental Standard for Sources of Human Drinking Water (NES-SHDW)

420. Regulations 7 and 8 of the NES-SHDW need to be considered when assessing discharge permits that have the potential to affect registered drinking water supplies that provide 501 or more people with drinking water for 60 or more calendar days each year.
421. Regulations 11 and 12 of the NES-SHDW apply to activities with the potential to affect registered drinking water supplies that supply 25 or more people with drinking water for 60 or more days of a calendar year. If the Consent Authority considers that a risk to the drinking water supply exists from an unintended event such as a spill or other accident, a condition must be placed on the consent that requires the consent holder to notify the drinking water supplier if such an event occurs.
422. As set out above, there are no registered drinking water supplies in proximity to the discharge location, so I have not assessed the NES-SHDW further.

National Policy Statements (NPS)

423. I consider the only NPS relevant to the consent applications is the National Policy Statement for Freshwater Management (NPS-FM).

National Policy Statement for Freshwater Management (NPS-FM)

424. The NPS-FM provides direction on the management of freshwater in New Zealand, and includes an objective, 15 policies, and a range of requirements through the National Objectives Framework (NOF) that local authorities must do to give effect to the objectives and policies of the NPSFM. As part of the NOF, the NPS-FM includes a number of objectives and policies that must be included in regional plans.
425. In accordance with s104(2F) of the RMA²⁹, the consent authority must not have regard to clauses 1.3(5) (the hierarchy of obligations in Te Mana o te Wai) or 2.1 (the objective) of the NPS-FM.
426. The Applicant has provided separate assessments against the NPS-FM for each of applications lodged. The Applicant's assessment of the NPS-FM for the application to construct and maintain the diversion channel (RM25.177) considers the proposal is consistent with Policies 1, 2, 3, 5, 7, 8, 9, 10, 12, 13, 14 and 15 of the NPS-FM because, in summary:
- a. The Applicant will implement a range of construction measures including undertaking diversion works in the dry where possible, erosion and sediment controls and cleaning machinery prior to works occurring within the river bed;
 - b. The Applicant will inspect the diversion channel following large freshes and relocate any stranded fish under the supervision of a qualified freshwater ecologist.
427. I agree that the Applicant has identified the relevant provisions of the NPS-FM to the activities sought under RM25.177.

²⁹ As inserted by the Resource Management (Freshwater and Other Matters) Amendment Act 2024

428. While not specifically mentioned by the Applicant, the Kawarau and Shotover/Kimiākau Rivers are outstanding water bodies as defined by the NPS-FM because they are protected under the WCO (NPS-FM at 1.4).
429. Based on the Applicant's proposal and technical advice I have received, I conclude that the activities sought to be authorised by RM25.177 are generally consistent with the objectives and policies of the NPS-FM, other than policy 1.
430. The Applicant has provided an extensive assessment of the NPS-FM in the application lodged for RM25.206. The Applicant ultimately concludes that the discharge can be undertaken in a way that is consistent with the NPS-FM. I have undertaken an assessment against each of the relevant policies of the NPS-FM in the paragraphs below.
431. Policy 1 seeks that freshwater is managed in a way that gives effect to Te Mana o te Wai. As described by clause 1.3(1) of the NPSFM, Te Mana o te Wai is a concept that refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. It is about restoring and preserving the balance between the water, the wider environment, and the community. Clause 1.3(4) goes on to outline the six principles which Te Mana o te Wai encompasses.
432. The Applicant considers that the proposal can be advanced in a way that is consistent with Te Mana o te Wai:
- a. The assessment of environmental effects concludes that water quality in the receiving environment will, after reasonable mixing, be maintained;
 - b. It is acknowledged that the discharge of treated wastewater to water will harm the mauri of the water and thus the cultural and spiritual well-being of freshwater will not be protected. The discharge also stems from a piece of critical community infrastructure (being the WWTP) such that a balanced perspective is required when considering the short-term nature of the discharge activity for which consent is sought while a suitable long-term solution is consented, designed and implemented.
433. The advice that I have received from Dr Greer considers that there will be significant increases in a number of water quality parameters in the Shotover River/Kimiākau beyond the zone of reasonable mixing. The increases are likely to result in the RPW limit for dissolved reactive phosphorus and nitrate not being met. Increased ammoniacal nitrogen concentrations will raise the risk of ammonia toxicity effects compared to upstream conditions. Concentrations will exceed the level that should be maintained to protect high conservation/ecological value systems in the Shotover River/Kimiākau and cause a shift from an A-band state to a B-band state under the NPS-FM. This differs from the assessment provided by the Applicant. If a diversion channel is not constructed, in Dr Greer's opinion, these effects will be even more severe. However, historic ecological monitoring provided by the Applicant does not support the conclusion that significant adverse effects on aquatic ecosystems are likely, even under a scenario in which lower quality treated wastewater was discharged to the River. Based on Dr Greer's advice the discharge is inconsistent with Policy 1 because water quality will be reduced.
434. There are fundamental cultural concerns arising from the discharge of treated wastewater to the Shotover River/Kimiākau. From a planning perspective, I do not consider these cultural concerns can be mitigated.
435. However, I also recognise that the Applicant is responding to an essential public health and infrastructure need, and that the diversion channel is a critical component in

reducing the scale of water quality degradation and avoiding the more significant ecological risks that Dr Greer has identified would occur in the absence of this mitigation. The discharge is temporary while a longer-term solution is developed, and Stage 3 upgrades have already materially improved treated wastewater quality relative to historic practice in addition to the development of further contingency measures that are ongoing.

436. Dr Greer's also states that there is a residual risk that significant effects could occur and recommends that updates are required to the REMP to include a procedure if ecological indicators show degradation greater than those measured historically.
437. Overall, while I consider the discharge does not result in freshwater being managed in a way that gives effect to Te Mana o Te Wai, I consider the discharge can possibly be appropriately managed through compliance with consent conditions. However I note that further discussion between experts is required to determine the specific content of those consent conditions.
438. Policy 2 requires tangata whenua to be actively involved in freshwater management (including decision-making processes) and for Māori Freshwater values to be identified and provided for. The impacts on cultural values of the discharge cannot be avoided. I consider the submissions from both Kāi Tahu ki Otago and Nga Papatipu Rūnanga ki Murihiku seeking the opportunity to develop conditions of consent in conjunction with the Applicant, goes some way to provide for this Policy.
439. Policy 3 is that freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of catchment basis, including effects on receiving environments. While the conclusions drawn by the Applicant on water quality effects differ from the advice I have received from Dr Greer, I agree with the Applicant that the integrated nature of the relevant freshwater resources has been considered and is not contrary to policy 3.
440. Policy 5 is that freshwater is managed (including through a National Objectives Framework) to ensure that the health and wellbeing of degraded water bodies and freshwater ecosystems is improved, and the health and wellbeing of all other water bodies and freshwater ecosystems is maintained and (if communities choose) improved. The Applicant notes that both the Shotover River/Kimiākau and the Kawarau River are in the A attribute band for all parameters except for those associated with sediment.
441. Both the Shotover River/Kimiākau and the Kawarau are of high quality. I consider the relevant direction in Policy 5 is that the health and wellbeing of the both the Shotover River/Kimiākau and the Kawarau River and the freshwater ecosystems they support is maintained. I consider there is some inconsistency between this policy and the Applicant's proposal. This is primarily due to the advice of Dr Greer, that there will be significant degradation of water quality, but that significant adverse effects would not be expected for freshwater ecosystems and the risk of such effects is low based on the historic ecological monitoring provided by the Applicant.
442. Policy 7 is that the loss of river extent and values is avoided to the extent practicable. The Applicant did not undertake an assessment of this policy in the application. I do not consider the discharge or bed disturbance works will result in the loss of river extent. With regards to river values, based on the advice I have received from Dr Greer and Dr McConchiel do not consider other uses of the river will be precluded by the discharge given the scale and nature of the receiving environment relative to the discharge.

443. Policy 8 is that the significant values of outstanding water bodies are protected. The Applicant considers that the assessment of effects demonstrates that the discharge will not prevent those identified values from being protected after reasonable mixing of the discharge. Recreational use is an outstanding characteristic protected by the WCO. Dr Greer's advice considers that although the discharge meets the *E.Coli* limit in the RPW, measuring *E.coli* alone is a poor indicator of human health risk associated with treated wastewater discharges. The Applicant considers that contact recreation standards will be met. At this stage there is some uncertainty about the potential for adverse effects on people who undertake primary contact recreation downstream of the discharge. The Applicant is yet to provide sufficient information to demonstrate that the CR standard will be met. This matter requires further consideration through the Court process.
444. Policies 9 and 10 are that the habitats of indigenous freshwater species, trout and salmon are protected. The Applicant considers the discharge is consistent with policies 9 and 10. I agree with that conclusion on the basis of advice from Dr Greer.
445. Policy 13 is that the condition of water bodies and freshwater ecosystems are systematically monitored over time and action is taken where freshwater is degraded and to reverse deteriorating trends. The Applicant considers that appropriate monitoring is proposed to be undertaken and combined with the limits on the discharge quality will enable action to be undertaken if issues arise. I agree with the assessment provided by the applicant on this policy. Based on the advice I have obtained from Dr Greer, I also recommend further monitoring to be undertaken in the REMP to require a management response if the discharge creates greater adverse effects than were recorded when the discharge last went to the river. I consider the specific aspects of this monitoring will require further consideration through the Court process.
446. Policy 15 is that communities are enabled to provide for their social and cultural wellbeing in a way that is consistent with this National Policy Statement. The Applicant considers that the WWTP provides significant benefit to the community (and a lifeline utility) and enables it to provide for its social, economic and cultural wellbeing and the discharge can be undertaken in a way that is consistent with the NPSFM.
447. I agree with the Applicant that the operation of the WWTP provides significant community benefit. I consider there are some aspects of the discharge that are inconsistent with some policies of the NPSFM and some areas of uncertainty in the information available at this time.

Operative Regional Policy Statement and Proposed Otago Regional Policy Statement

448. The RPSs provide an overview of the resource management issues for the Otago Region and the ways of achieving integrated management of its natural and physical resources. There is currently both a regional policy statement and a proposed regional policy statement in the Otago Region:
- a. Operative Otago Regional Policy Statement 2019 (**ORPS 2019**); and
 - b. Proposed Otago Regional Policy Statement (**P-ORPS 2021**), which was first notified on the 26 June 2021 and on 15 September 2022 for the freshwater instrument components. On 30 March 2024 a hearing panel decision was released for both the freshwater and non-freshwater components. The P-ORPS 2021 is in the appeals phase with a number of consent orders having been sealed by the Environment Court. At the time of drafting this report, appeals on most provisions have been resolved aside from those contained in Coastal Environment, Ecosystems and indigenous biodiversity, Historical and cultural

values, Natural features and landscapes and urban form and development chapters.³⁰

449. In this case, the decisions on the P-ORPS 2021 have been released and many appeals are now resolved through consent orders. Accordingly, I consider that many of the relevant P-ORPS 2021 provisions have advanced through the appeals process to a point the provisions are now settled and supersede any comparable provisions in the ORPS 2019. I have primarily assessed the activity against the P-ORPS 2021, except for those chapters still under appeal, where I have also had regard to the relevant provisions of the ORPS 2019.
450. The Applicant has undertaken an assessment of the relevant provisions of both the ORPS 2019 and P-ORPS 2021 for RM25.177 and RM25.206. Since then, a number of Environment Court Consent Orders and a High Court decision have progressed the P-ORPS 2021. My assessment below reflects the most recent version of the P-ORPS 2021 provisions.

MW- Mana whenua

451. MW-O1 requires the principles of Te Tiriti o Waitangi be given effect in resource management processes and decisions by utilising a partnership approach. Achievement of this direction is supported by a number of policies including MW-P1, MW-P2 and MW-P3.
452. In preparing this Section 87F report, the treaty principles set out in MW-P2 have addressed, to the extent possible through a resource consent process.
453. I consider there are fundamental cultural concerns associated with the discharge of treated wastewater to the Shotover River/Kimiākau that cannot be mitigated. Based on this I do not consider the applications are fully consistent with MW-P3. Both Kāi Tahu ki Otago and Nga Papatipu Rūnanga ki Murihiku seek the opportunity to develop conditions of consent in conjunction with the Applicant. I am supportive of this approach as a next step as collaborative development of consent conditions may enable some of the impacts on cultural values identified to be mitigated, monitored and managed over the duration of consent sought.

IM-Integrated Management

454. IM-O1 sets the long-term vision for resource management in the Otago region. In partnership with Kāi Tahu, IM-O1 is that the environment is healthy and resilient and provides for future generations. IM-O2 is that resource management embraces ki uta ki tai and IM-O3 is that Otago's communities are able to provide for their cultural, economic and cultural wellbeing. IM-O4 sets out the region's response to climate change. I do not consider it relevant for further assessment here. These objectives are implemented by a range of policies including IM-P3, IM-P5, IM-6, IM-P13 and IM-P15.
455. To summarise the earlier assessments in this report, the advice I have received from Dr Greer is that:
- a. there will be degradation of freshwater quality as a result of the discharge of treated wastewater;
 - b. historic ecological monitoring provided by the Applicant does not support the conclusion that significant adverse effects on aquatic ecosystems are likely and the risks of such effects are considered low, even under a scenario in which lower quality treated wastewater was discharged to the River.

³⁰ A decision has been issued on the provisions in Coastal Environment, and consent memoranda have been filed on Ecosystems, Indigenous Biodiversity, Historical and Cultural Values.

456. Dr Greers states that there is a residual risk that significant effects could occur and recommends that updates are required to the REMP to include a procedure should ecological indicators show degradation greater than those measured historically.
457. I consider Dr Greer's recommendation is consistent with that set out in IM-P6.
458. There is some uncertainty regarding the potential for adverse effects on those who undertake primary contact recreation downstream of the discharge as the Applicant is yet to provide sufficient information to demonstrate the CR standard will be met. Subject to the discharge after reasonable mixing meeting the contact recreation standards, I consider other uses of the river will be protected.
459. I recognise that the Applicant is responding to an essential public health and infrastructure need the resolution of which accords with the direction set in IM-O3 all activities are sought for a relatively short period while the Applicant develops the long term disposal system. The exception to this are the impacts on cultural wellbeing which are recognised by the Applicant as fundamental and unable to be fully mitigated. I understand engagement between Kāi Tahu ki Otago, Nga Papatipu Rūnanga ki Murihiku and the Applicant is ongoing with the intent of developing consent conditions that may enable some of the impacts on cultural values identified to be monitored and managed over the short duration of consent sought. Overall, I do not consider the applications to be consistent with the direction set in IM-O1, IM-O2 and IM-O3.

AIR-Air

460. Air-O2 is that the localised adverse effects of discharges to air do not compromise human health, amenity values, mana whenua values and the life supporting capacity of ecosystems. The achievement of this objective is supported by AIR-P1 and AIR-P4.
461. I consider the effects on air quality are able to be mitigated and are not anticipated to cause objectionable or offensive odour beyond 50 metres from the outfall and drain. Overall, I consider the discharge to air is consistent with AIR-Air.

LF-Land and freshwater

462. LF-WAI-O1 requires water bodies to be managed in accordance with Te Mana o te Wai. This objective is supported by LF-WAI-P1, LF-WAI-P2, LF-WAI-P3 and LF-WAI-P4.
463. The discharge can not be managed in a way that gives full effect to Te Mana o Te Wai but can possibly be appropriately managed through compliance with consent conditions. I understand Kāi Tahu ki Otago, Nga Papatipu Rūnanga ki Murihiku and the Applicant are having ongoing discussions on conditions that may manage satisfactorily some of the impacts on cultural values over the short duration of the consents, if granted. LF-FW-O1A sets an overarching direction for the achievement of the FMU specific visions in the Otago region. LF-VM-O2 is the vision for the Clutha Mata-au FMU. LF-FW-O8 requires the significant and outstanding values of Otago's outstanding water bodies to be identified and protected, and LF-FW-O10 requires the natural character of rivers and their margins to be protected. Achievement of these objectives is supported by LF-FW-P7, LF-FW-P11, LF-FW-P12 (as required to be addressed by EIT-INF-P13), LF-FW-P13, LF-FW-P16,
464. Based on advice from Dr Greer, there will be degradation of freshwater quality, however historic ecological monitoring provided by the Applicant does not support the conclusion that significant adverse effects on aquatic ecosystems are likely and are of low risk of occurring, even under a scenario in which lower quality treated wastewater was discharged to the River. I consider the works to establish and manage the diversion channel and the discharge itself is able to be appropriately managed within the dynamic context of the river and will not impact on the form, function and character of the River, fish passage will be maintained and there will be no loss of value or extent.

465. Some uncertainty remains in relation to impacts on contact recreation. Subject to the discharge after reasonable mixing meeting the contact recreation standards, I consider the use of the Shotover River/Kimiākau for contact recreation will be protected and significant values of the Rivers as outstanding water bodies will be maintained.
466. LF-FW-P16 is specific to the discharge of wastewater. The Applicant has determined that the discharge of treated wastewater is not “new”. I consider the discharge must be considered “new” under this Policy, but note that the discharge of treated wastewater (albeit to land) forms part of the existing environment under RM13.215.03.V2. With regards to clause (1) of this policy, the discharge is of a short duration while the future disposal solution is developed and established. The Applicant’s proposal is to adhere to higher quality discharge standards for the duration of the discharge. Despite the Applicant’s assessment that the discharge is not new, they have provided an assessment that addresses the matters in LF-FW-P16 (2)(a)(i) to (iii). I generally agree with the assessment provided by the Applicant, but consider further information will likely be provided during this process to determine whether the proposal is fully consistent with the direction in LF-FW-P16.
467. Overall, I consider the activities, subject to adherence to conditions, can be undertaken in a way that is consistent with some aspects of the policy direction of the Land and Freshwater chapter. This is largely due to the applications being for a temporary discharge of five years. As acknowledged in the assessments above, there are some areas of uncertainty. As this process continues, I consider it will be clearer to what extent consistency with the Land and Freshwater chapter can be achieved.

ECO – Ecosystems and indigenous biodiversity

468. At the time of drafting this report, the ECO chapter of the P-ORPS 2021 is still under appeal and a consent Memorandum seeking Orders has been filed with the Court. I have undertaken an assessment below of the relevant provisions of the ORPS 2019 and have applied weighting towards the P-ORPS 2021.
469. ORPS 2019 Objective 3.1 is that the values (including intrinsic values) of ecosystems and natural resources are recognised and maintained or enhanced where degraded. Policy 3.1.9 provides direction for managing ecosystems and indigenous biological diversity in freshwater environments.
470. P-ORPS 2021 ECO-O1 is that Otago’s indigenous biodiversity is healthy and thriving. ECO-O1 is supported by ECO-P6 which is to maintain indigenous biodiversity outside of the coastal environment.
471. I consider impacts on fish passage from the proposed river bed disturbance works and discharges will be minimal. Historic ecological monitoring when lower quality treated wastewater was discharged to the Shotover River/Kimiākau provided by the Applicant does not support the conclusion that significant adverse effects on aquatic ecosystems are likely, Dr Greer’s advice is that there is a residual risk that significant effects could occur and recommends that updates are required to the REMP to include a procedure should ecological indicators show degradation greater than those measured historically. I consider any impacts on aquatic ecosystems are likely to be mitigated. In terms of avifauna, Conservation. In consultation with Mr Shaw, I suggest conditions to mitigate the effects on avifauna. I consider indigenous biodiversity values will be maintained and the applications can be undertaken in a way that is consistent with Objective 3.1 and Policy 3.1.9 of the ORPS 2019 and ECO-O1 and ECO-P6 of the P-ORPS 2021.
472. I consider the following provisions of the P-ORPS 2021 are also relevant, ECO-O3, ECO-P1 and ECO-P4.

473. The impacts on cultural wellbeing are fundamental and unable to be fully mitigated. I understand engagement between Kāi Tahu ki Otago, Nga Papatipu Rūnanga ki Murihiku and the Applicant is ongoing with the intent of developing consent conditions that may enable some of the impacts on cultural values identified to be monitored and managed over the short duration of consent sought. Overall, I do not consider the applications to be entirely consistent with the direction set in ECO-O3, ECO-P1 and ECO-P4 at this time. This is due to the fundamental cultural concerns raised and the impact of this on the ability of mana whenua to exercise their role as kaitiaki.

EIT – Energy, Infrastructure and transport

474. The WWTP and disposal infrastructure is defined as ‘regionally significant infrastructure’ under the P-ORPS 2021. I consider the proposed works in the bed to establish and operate the diversion channel and the outfall could be considered as new regionally significant infrastructure.
475. EIT-INF-O4 is that there is effective, efficient, safe and resilient regionally significant infrastructure that enables people and communities to provide for their social and cultural wellbeing and their health and safety. This is supported by EIT-INF-P10, EIT-INF-P12, EIT-INF-P13, EIT-INF-P14, EIT-INF-P15.
476. The Applicant seeks to undertake riverbed disturbance works within an outstanding water body. I consider the works to establish and manage the diversion channel and the discharge itself are able to be appropriately managed within the dynamic context of the river and will not impact on the form, function and character of the Shotover River/Kimiākau and fish passage will be maintained and there will be no loss of value or extent. However, there are fundamental concerns from a cultural values perspective.
477. With regards to EIT-INF-P12, there is considerable uncertainty associated with the diversion channel as discussed by Dr McConchie, particularly the performance of the system during larger floods in the River. There is limited information on how often such events are likely to occur, timeframes for reinstating the channel or what is intended to occur to ensure adequate dilution of the treated wastewater discharge while the channel is being reinstated. These concerns are similar to those of Dr Greer, because of the importance of the diversion in reducing adverse effects from the treated wastewater discharge on surface water quality. This aspect of the proposal should be explored further through the Court process.
478. Overall, while the proposal seeks to maintain the effective and resilient operation of regionally significant wastewater infrastructure, I consider there remain uncertainties regarding the diversion channel performance and the consequential effects on water quality during higher flow events. I do not consider the applications to be entirely consistent with the provisions of the EIT chapter at this time.

HCV – Historical and cultural values

479. At the time of drafting this report, the HCV chapter of the P-ORPS 2021 is still under appeal and a consent memorandum seeking orders has been filed with the Court. I have undertaken an assessment below of the relevant provisions of the ORPS 2019 and have applied weighting towards the P-ORPS 2021.
480. Policy 5.2.3 of the ORPS 2019 sets out how historic heritage is managed. P-ORPS 2021 HCV-HH-O3 is that the region’s unique historic heritage is protected for future generations from inappropriate use and development. HCV-WT-O1 is that wāhi tūpuna and their associated values are identified and protected. HCV-WT-O2 is that the rakatirataka of mana whenua over wāhi tapuna is recognised. These objectives are supported by HCV-HH-P3 and HCV-HH-P5.
481. The Kawarau WCO identifies historical purposes, in particular gold mining as an outstanding characteristic that requires protection. I do not have any information

available at this time which suggests that this outstanding characteristic would be compromised as a result of the activities.

482. There are impacts on cultural wellbeing which are recognised by the Applicant as fundamental and unable to be mitigated. I understand engagement between Kāi Tahu ki Otago, Nga Papatipu Rūnanga ki Murihiku and the Applicant is ongoing with the intent of developing consent conditions that may enable some of the impacts on cultural values identified to be monitored and managed over the short duration of consent sought.
483. I consider the following provisions of the P-ORPS 2021 are also relevant, HCV-WT-O1 which is that wāhi tupuna are identified and their cultural values identified and protected. This objective (HCV-WT-O2) is supported by HCV-WT-P2 and HCV-WT-P2A.
484. I do not consider the applications are consistent with the provisions contained in the HCV-WT chapter because the impacts on cultural wellbeing which are recognised by the Applicant as fundamental and unable to be fully mitigated. In particular, the discharge of treated wastewater to freshwater within an identified wāhi tupuna area will not be avoided if the discharge is consented (HCV-WT-P2).

Regional Plan: Water for Otago (RPW for Otago)

485. The following is an assessment of the proposal against the relevant Objectives and Policies of the RPW for Otago. The Applicant has provided separate assessments against the RPW for Otago for each of the two applications lodged. The Applicant's assessment of the RPW for Otago provided for the application to construct and maintain the diversion channel (RM25.177) considers the proposal is consistent with Objectives 5.3.1, 5.3.2, 5.3.3, 5.3.4, 5.3.5, 5.3.6, 5.3.8, 8.3.1, 8.3.2 and Policies 5.4.2, 5.4.3, 5.4.4, 5.4.5, 5.4.6, 5.4.8, 5.4.9 8.4.1 and 8.6.1. The reasons provided by the Applicant are, in summary:
- a. The diversion works are temporary in nature, at a scale that will maintain the values of the Shotover River/Kimiākau and are proposed to occur in accordance with a range of proposed consent conditions (including accidental discovery protocols, undertaking works in the dry where possible, ensuring any machinery used is clean and implementing erosion and sediment controls);
 - b. Effects on public access will be temporary and limited to the operational area while the bulk of the riverbed will remain open to the public; and
486. Any instream ecology is expected to be adequately managed by the proposed conditions of resource consent.
487. I generally agree with the assessment provided by the Applicant. I do however note that as raised in the submission from Nga Papatipu Runanga ki Murihiku, the proposed diversion channel works are considered to have an adverse effect on cultural landscape and will impact on the relationship that Ngāi Tahu whānui have with the awa and the surrounding area. Similarly, the submission from Aukaha Ltd considers the establishment of a diversion channel to be an affront to the mauri of the River. My assessment therefore differs from the Applicant's and I consider there is some inconsistency with Objective 5.3.2 and Policy 5.4.2. Largely due to the fundamental cultural concerns identified.
488. In addition to the objectives and policies identified by the Applicant above, I also consider Policy 5.4.2A is relevant. This policy is that the loss of river extent and values is avoided, unless the ORC is satisfied that:
- a. There is a functional need for the activity in that location; and

- b. The effects of the activity are managed by applying the effects management hierarchy.
489. The Applicant has not provided an assessment of functional need or addressed the effects management hierarchy in their Application. In undertaking this assessment, I have referred to the definitions in the NPS-FM of 'loss of value', 'functional need', and 'effects management hierarchy' as directed by the advice note.
490. I consider there is a functional need for the treated wastewater discharge and bed disturbance works to be located in a particular environment. This is due to the proximity of the WWTP, presence of existing infrastructure and the context within which the need for the short-term discharge has occurred.
491. For the activities associated with RM25.177 and bed disturbance works associated with the installation of the outfall, I consider the effects are able to be managed by applying the effects management hierarchy. In particular, works are proposed to not take place in flowing water, where works are required in flowing water then measures will be put in place to minimise effects. Similarly effects on nesting avifauna are proposed to be avoided and minimised where practicable. I consider (a) and (b) can be satisfied for the bed disturbance activities proposed.
492. For the discharge of treated wastewater I consider there cultural values associated with the Shotover River/Kimiākau that are likely unable to be avoided and will require further consideration by the Court as this process continues.

Chapter 5: Natural and Human Use Values of Lakes and Rivers

493. The Applicant's assessment for the discharge of treated wastewater to water and to construct the outfall in the bed of the Shotover River/Kimiākau (RM25.206) considers the following objectives 5.3.1, 5.3.2, 5.3.3, 5.3.4, 5.3.5, 5.3.6 and 5.3.8 are relevant to the activities sought to be authorised under RM25.206. There is no direct assessment against the objectives. Rather an assessment is undertaken against the policies that are considered relevant. I have undertaken a separate assessment against what I consider to be the relevant objectives and policies in the sections below:
494. Objective 5.3.1 is to maintain or enhance the natural and human use values identified in Schedule 1A, 1B and 1C that are supported by Otago's lakes and rivers. Objective 5.3.2 is to maintain or enhance the spiritual and cultural beliefs, values and uses of significance to Kāi Tahu, identified in Schedule 1D as these relate to Otago's lakes and rivers. These objectives are supported by a number of policies including Policies 5.4.2 and 5.4.4. The Applicant considers the proposal is not entirely consistent with these policies and I agree with that assessment. In particular, I consider the adverse effects on the spiritual and cultural beliefs, values and uses of significance to Kāi Tahu identified in Schedule 1D are unable to be avoided. Based on the submissions from Nga Papatipu Runanka ki Murihiku and Kāi Tahu ki Otago the discharge of treated wastewater to the Shotover River/Kimiākau is abhorrent and unacceptable. The Applicant notes that Kāi Tahu are involved in the decision-making process for the long-term solution and further engagement is underway to discuss any further mitigation or monitoring of the short-term discharge desired by kā runanka to further mitigate effects where possible. The submissions from Nga Papatipu Runanka ki Murihiku and Aukaha Ltd both seek further opportunity to develop conditions of consent in conjunction with the applicant has this process continues. I consider the ongoing engagement with Nga Papatipu Runanka ki Murihiku and Aukaha Ltd is consistent with the direction provided by Policy 5.4.4.
495. Objective 5.3.3 is to project the natural character of Otago's lakes and rivers and their margins from inappropriate subdivision, use or development. Objective 5.3.4 is to maintain or enhance the amenity values associated with Otago's lakes and rivers and their margins. Both objectives are supported by policies 5.4.5, 5.4.8 and 5.4.9. Policy

5.4.5 requires the WCO to be recognised. The Applicant considers the outstanding characteristics identified by the WCO will be maintained and protected. As mentioned in the assessment of the NPS-FM above, while the Applicant considers that contact recreation standards will be met, there is some uncertainty as the Applicant has not provided sufficient information to support that position. This aspect will require further consideration through the Court process.

496. Subject to the discharge after reasonable mixing meeting the standards for contact recreation as anticipated by the Applicant, I consider contact recreation is a significant value that can be protected. In terms of Policies 5.4.8 and 5.4.9, based on the technical advice I have received I agree with the Applicant's assessment of these policies and consider the proposal is consistent with them.

Chapter 7: Water Quality

497. The Applicant's assessment considers objectives 7.A.1, 7.A.2 and 7.A.3 to be most relevant to the activities sought to be authorised as part of RM25.206. There is no direct assessment against the objectives. Rather an assessment is undertaken against the policies that are considered relevant. I have undertaken a separate assessment against what I consider to be the relevant objectives and policies in the sections below:
498. Objective 7.A.1 is that water quality is maintained but enhanced where it is degraded. Objective 7.A.2 is to enable the discharge of water or contaminants to water or land, in a way that maintains water quality and supports natural and human use values including Kāi Tahu values. Finally, Objective 7.A.3 is to have individuals and communities manage their discharges to reduce adverse effects, including cumulative effects, on water quality. These objectives are supported by a number of policies. Policy 7.B.2 is to avoid objectionable discharges of water or contaminants to maintain the natural and human use values, including Kāi Tahu values of water bodies. I consider the discharge is not consistent with Objective 7.B.2 and Policy 7.B.2 because of the effects on Kāi Tahu values and surface water quality as advised by Dr Greer.
499. Policy 7.B.3 enables discharges of water or contaminants to surface water that have minor effects or that are short term discharges with short term adverse effects. The Applicant states that the discharge will be a short term activity and is consistent with this policy. There is no guidance provided in the policy on what is considered to be 'short term'. Some guidance is provided in Policy 7.D.4, which specifies a duration of two years for a short-term activity with short-term adverse effects or five years for all other discharges. I do not consider the duration sought here is entirely aligned with what the RPW considers to be a short-term activity. Policy 7.B.3 allows discharges which have minor effects. At present there are some uncertainties about the effects on water quality of the discharge (for example on compliance with contact recreation standards). It is not possible to say all effects on water quality are or will be minor. This issue will require further consideration through the Court process.
500. Policy 7.B.6 sets out the criteria to be considered when determining the zone of reasonable mixing. The Applicant has provided a zone of reasonable mixing in its Section 92 RFI response. Dr Greer agrees with the methodology used and the extent of the reasonable mixing zone determined. I therefore agree with the Applicant that consistency with this Policy can be achieved.
501. Subsection 7.C sets out policies that provide specific directions for the discharge of human sewage, hazardous substances, hazardous wastes, specified contaminants and stormwater and discharges from industrial or trade premises. Policy 7.C.2 sets out a number of matters to which regard must be had when considering applications to discharge contaminants to water. The Applicant has addressed each matter in its assessment of the Policy considers that the application is consistent. I agree with the assessments provided for (a) and (b) based on the information available to date.

Clause (c) requires consideration of the current state of technical knowledge and the likelihood that the proposed method of discharge can be successfully applied. My understanding of the proposal is that the proposed method of discharge may require the establishment of a diversion channel in the riverbed to ensure the discharge from the discharge channel is always to flowing water so that adequate dilution can be achieved at the downstream extent of the reasonable mixing zone. I consider a key issue associated with evaluating the impacts of the discharge with the diversion is ensuring it can reliably and continuously achieve the necessary flow, as set out in Dr Greer's and Dr McConchie's advice. Flow data referred to by Dr Greer suggests that the diversion may not be able to provide the full 2.5m³/s design flow required for >20% of the time, and this could be significantly greater due to the gravel build-up in the diversion channel or shifts in the Shotover River/Kimiākau following high flows. Similarly, Dr McConchie's highlights the dynamic river environment within which this discharge occurs and has changed considerably since the discharge commenced. To ensure the level of effects do not reach the extent of those which could occur in the absence of the diversion sought under RM25.177, I consider it is critical to ensure that the Applicant is able to monitor the diversion channel area and undertake works as soon as possible following a determination being made that they are necessary.

502. Policy 7.C.4 sets out guidance for durations for resource consents. Clause (c) requires that durations take into account the anticipated adverse effects on any natural and human use value supported by the Shotover River/Kimiākau and are no more than 5 years where the discharge does not meet the water quality standard required to support that value. I note the duration sought by the Applicant in this case is 5 years with an expiry of 31 December 2030. Assuming the application is determined in the new year, the duration will be under 5 years.
503. Policy 7.C.12 provides specific direction to discharges from existing reticulated wastewater systems. In terms of clause (a) the Applicant considers the effects arising from the discharge to land are greater than the discharge to water due to the bird strike risk and impacts on amenity for recreational users of the delta. I also note Dr Greer's advice regarding ammonia impacts in the Shotover River/Kimiākau and Mr Baker's comments with regards to shallow groundwater being heavily impacted by the DAD discharge. Lower quality wastewater discharge may have contributed to these legacy impacts, but I do not have any technical information available to confirm this. In relation to clauses (b) and (d)(iii), the Applicant has been required to update the Operations and Maintenance Manual, and through this report recommendations are made for further updates and a contingency plan alongside additional contingency measures (such as the repurposed oxidation ponds) to provide greater resiliency in the event of treatment or disposal issues. In terms of clause (c), a short term consent is sought and the Stage 3 upgrades have already been made operational ahead of schedule. I consider the application is not consistent with clause (e) of this policy because of the impacts on Kāi Tahu values.

Chapter 8: The Beds and Margins of Lakes and Rivers

504. The Applicant has provided an assessment against the provisions in this chapter relevant to the placement of the discharge outfall, I agree with the assessment provided by the Applicant.

Regional Plan: Air for Otago (RPA for Otago)

505. The following is an assessment of the proposal against the relevant Objectives and Policies of the RPA for Otago. The Applicant has provided an assessment of the RPA for Otago in the application for RM25.206. This was originally sought as a variation to the existing air discharge permit, but it was considered it should be processed as a new application.

506. Based on the assessment of effects on air quality undertaken above and informed by advice from Mr Iseli, I agree with the assessment of the relevant provisions undertaken by the Applicant and consider that the discharge to air can be undertaken in a way that is consistent with the RPA for Otago.

Section 104(1)(c) Any other matters

507. With regards to other relevant matters, I consider the Water Conservation (Kawarau) Order 1997, Kai Tahu ki Otago Natural Resource Management Plan 2005 and the Ngāi Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan 2008 - The Cry of the People, Te Tangi a Tauira are relevant other matters for the consideration of this application. The Applicant has undertaken an assessment of each of these documents across both applications lodged.

Water Conservation (Kawarau) Order 1997 (Kawarau WCO)

508. The Kawarau WCO protects the outstanding characteristics, values and uses of the Kawarau River and its major tributaries, including the Shotover River/Kimiākau. When considering a resource consent application relating to waters covered by a WCO, Section 217 of the RMA requires decision-makers to ensure that granting consent will not be contrary to the purpose and provisions of the Order. Section 217(2)(c) enables decision makers in granting consent impose conditions as are necessary to ensure the provisions of the WCO are maintained.
509. The outstanding characteristics of the both the Kawarau River and Shotover River/Kimiākau are described in the earlier sections of this report. Under the WCO, both waters must be managed to a Class CR Standard (being water managed for contact recreation purposes). These are set out in Schedule 3 of the RMA and are as follows:
- a. The visual clarity of the water shall not be so low as to be unsuitable for bathing.
 - b. The water shall not be rendered unsuitable for bathing by the presence of contaminants.
 - c. There shall be no undesirable biological growths as a result of any discharge of a contaminant into the water.
510. The Applicant considers the outstanding characteristics protected by the WCO will not be impacted as a result of the applications sought.
511. Based on the advice that I have received from Dr Greer, Dr McConchie and Mr Baker regarding the scale of the diversion channel works and discharge relative to the wider river environs, I do not consider the outstanding characteristics sought to be protected will be compromised.
512. In terms of achieving the contact recreation standards, the Applicant considers that, following reasonable mixing the standards will be met and further says that catchment sourced sediment and pathogens that impact water quality during run off events are significantly more influential on the achievement of the contact recreation standards.
513. There is uncertainty at this stage about whether the standards for contact recreation will be met. This aspect will require further consideration through the Court process.
514. Subject to the contact recreation standards being met, I do not consider the outstanding characteristics sought to be protected by the Kawarau WCO will be compromised. If it is found that the CR Standard is unable to be met, due the direction provided by Section 217 of the RMA, resource consent RM25.206 is unable to be granted.

Te Rūnanga o Ngāi Tahu Freshwater Policy Statement 1999 (FPS)

515. The FPS is the overarching Ngāi Tahu policy document relating to the management of freshwater. The FPS identifies Ngāi Tahu values and uses associated with freshwater resources, before identifying a number of issues related to freshwater. Part 2 (section 6) of the FPS sets out the objectives and policies, as well as associated strategies and methods.
516. The Applicant did not provide an assessment of the FPS in either of their applications. I consider the following provisions to be most relevant:
- a. Objective 6.2 and supporting policies 1 and 4. I also note that Strategy 31 is that Councils should prohibit the direct discharge of contaminants, particularly human effluent to waterways;
 - b. Objective 6.3 and supporting policy 2; and
 - c. Objective 6.4 and supporting policies 1 and 3.
517. In its submission, Kāi Tahu ki Otago states the diversion channel will be an affront to the mauri of the Shotover River/Kimiākau, I do not consider the proposal sought to be authorised by RM25.177 is entirely consistent with the direction provided by FPS, particularly the direction provided by Objective 6.2 as the mauri of freshwater resources will not be protected. Similarly, I consider the discharge of treated wastewater to water is contrary to the direction of the FPS.
518. I consider the opportunity to collaboratively develop consent conditions could be considered generally consistent with Objective 6.4 and policy 3 of the FPS.

Kai Tahu ki Otago Natural Resource Management Plan 2005 (NRMP)

519. The NRMP expresses the attitudes and values of the four Papatipu Rūnanga: Te Rūnanga o Moeraki, Kāti Hurirapa Rūnanga ki Puketeraki, Te Rūnanga o Ōtākou and Hokonui Rūnanga.
520. The Applicant has provided an assessment of the NRMP for each of the applications sought.
521. With respect to the application to establish, operate and maintain the diversion channel (RM25.177) the Applicant considers the proposal is not contrary to the policy direction provided by the NRMP. I consider the Applicant has identified the policies that could be considered generally relevant to the activity. In addition to the policies identified, I also consider the overarching objectives in Section 5.2 and the Wai Māori General objectives in Section 5.3.3 are also relevant for consideration.
522. Because of the submission made by Kāi Tahu ki Otago that the diversion channel will be an affront to the mauri of the Shotover River/Kimiākau, I do not consider the proposal sought to be authorised by RM25.177 is consistent with the direction provided by the NRMP, particularly achievement of Objective 5.2(iii).
523. In terms of the Application made to authorise the discharge of treated wastewater to water (RM25.206), an assessment against the relevant provisions of the NRMP is provided in the application document. I agree with that assessment. Overall, I consider the discharge of treated wastewater to water is contrary to the direction provided in the NRMP.

Ngāi Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan 2008 - The Cry of the People, Te Tangi a Tauira (NREMP)

524. The NREMP is relevant to the applications for resource consent. Similar to the assessment against the NRMP, the Applicant has provided an assessment of the NRMP for each of the applications sought.
525. With respect to the application to establish, operate and maintain the diversion channel (RM25.177) the Applicant considers the proposal is not contrary to the policy direction

contained in the NREMP. Based on the concerns raised in the submission made by Kāi Tahu ki Otago that the diversion channel will be an affront to the mauri of the Shotover River/Kimiākau, I do not consider the proposal sought to be authorised by RM25.177 is entirely consistent with the direction provided by the NREMP.

526. In terms of the Application made to authorise the discharge of treated wastewater to water (RM25.206), the Applicant has provided an assessment against the relevant provisions of the NREMP in the application document, and I agree with the assessment provided. Overall, I consider the discharge of treated wastewater to water is contrary to the direction provided in the NREMP.

Sections 104(2EA) and 104(6A) Regard to abatement notices, enforcement orders, infringement notices or convictions and ability to decline consent if the applicant has a record of significant non-compliance

527. The Applicant's compliance history years in relation to the WWTP over the past four years is set out earlier in this report. To summarise, over the past four years, the ORC has issued the Applicant with two abatement notices and 11 infringement notices in relation to the WWTP these are annexed in Appendix 5. Infringements cited in the notices are due to:
- a. Unauthorised discharges of treated wastewater to land on the Shotover Delta via a pipe which may result in treated wastewater entering surface water;
 - b. Contravening an abatement notice issued due to non-compliance with the conditions of RM13.215.03.V2 (discharging of untreated wastewater to land); and
 - c. Discharging offensive and objectionable odour into air from the WWTP.
528. On 10 June 2025, the Environment Court made an Enforcement Order against the Applicant by consent, and this is currently in place. I understand the Applicant is making progress towards achieving each of the actions required by the Enforcement Order. The order is annexed to this report as Appendix 6.
529. The Applicant was convicted in 2017 and 2019 for wastewater discharges to water. Neither conviction was connected to the WWTP.³¹

Section 104B Determination of applications for discretionary or non-complying activities

530. All applications sought have been bundled to achieve a discretionary activity status. After considering an application for a resource consent for a discretionary activity, a consent authority may grant or refuse the application and, if it grants the application, may impose conditions under section 108.

Section 104G Consideration of activities affecting drinking water supply source water

531. As discussed above there are no registered drinking water supply sites that will be affected by the discharge or bed disturbance works sought to be authorised.

Section 105(1) Matters relevant to certain applications

532. In addition to the matters in section 104(1) of the RMA, section 105(1) also requires decision makers to have regard to a number of matters for applications for that would contravene section 15 or section 15B of the RMA.
533. With regards to Section 105(1)(a) the Applicant states that the discharge involves treated wastewater entering the Shotover and Kawarau Rivers, which are sensitive receiving environments due to their high water quality, ecological habitat, cultural significance, recreational and commercial use, and valued natural character. Effects

³¹ ORC v QLDC [2017] NZDC 28767 and ORC v QLDC [2019] NZDC 832.

beyond the reasonable mixing zone are assessed as minimal, except for high cultural effects.

534. In terms of Section 105(1)(b) the Applicant states that the application is required to authorise the ongoing treated effluent discharge that began as emergency works, ensuring it remains lawful on an interim basis while a long-term disposal solution is progressed; given the scale and nature of the discharge, the limited short-term alternatives, and the commitment to implementing the permanent solution by 31 December 2030.
535. To satisfy Section 105(1)(c) the Applicant provides a description of alternative locations, methods and key criteria for determining the treated wastewater disposal solution proposed in these applications in section 8.1.3 of the application for RM25.206. Table 14 of the application is attached as Appendix 4.
536. I generally agree with the Applicant's consideration of the proposal against the matters of s105(1), except for noting that, based on Dr Greer's advice freshwater quality will degrade as a result of the discharge. Given the high ecological, recreational, cultural, and amenity values associated with the Shotover River/Kimiākau and Kawarau River, even a measurable reduction in water quality represents an adverse effect on a sensitive receiving environment.
537. I note that Section 105(3) is not relevant due to the application meeting the exclusion criteria in Regulation 43(g) of the WEPS.
538. From a planning perspective, I consider the provisions of Section 105 have been addressed.

Section 107 Restrictions on grant of certain discharge permits

539. Under Section 107(1) of the RMA a consent authority shall not grant a consent for the discharge of a contaminant into water or onto or into land if, after reasonable mixing, the discharge is likely to give rise to all or any of the following effects in receiving waters:
- (a) *The production of conspicuous oil or grease films, scums, foams, floatable or suspended material:*
 - (b) *Any conspicuous change in the colour or visual clarity:*
 - (c) *Any emission of objectionable odour:*
 - (d) *The rendering of fresh water unsuitable for consumption by farm animals:*
 - (e) *Any significant adverse effects on aquatic life.*
540. In terms of the discharges of sediment as a result of bed disturbance, based on the advice of Dr Greer I do not consider the discharge will give rise to the effects listed in (a) to (e) after reasonable mixing. The grant of RM25.177 is not precluded by section 107(1).
541. Relying on the advice of Dr Greer, I do not consider the discharge of treated wastewater will give rise to the effects listed in (a), (b) and (e), subject to there being a continually flowing braid past the discharge point via the diversion channel or occurring naturally. Based on Mr Iseli's advice I do not consider the emission of objectionable odour will occur beyond the zone of reasonable mixing (c). I do not have any information available to me to make a determination against (d) at this time, but I am not aware of any concerns relating to the quality of water for stock water. Based on the information I have available at this stage, I consider that the discharges will not result in the effects listed in Section 107(1). Should further information indicate that Section 107(1)(d) may not be met in all circumstances, Section 107(2) provides a pathway for consent to still be granted.

542. A thorough assessment has not been undertaken at this stage, but it is considered that exceptional circumstances would likely justify the grant of resource consents given because:
- a. the WWTP, discharge and diversion channels are regionally significant infrastructure under the P-ORPS 2021;
 - b. the failure of the DAD means that the Applicant cannot cease discharging to the Shotover River/Kimiākau and the assessment of alternatives undertaken by the Applicant found the option sought to be authorised under these applications to be better than the other alternatives considered; and
 - c. a duration of 5 years for the discharge to water consent is sought while the Applicant works towards the achievement of milestones set out in the Enforcement Order and proposed as a condition of resource consent for RM25.206. The proposed duration of 5 years for the discharge permit is much shorter than the usual duration of such consents.
543. I am of the view that the applications are consistent with Section 107 of the RMA.

Part 2 Assessment: Sections 5 - 8

544. Under Section 104(1) of the RMA, a consent authority must consider resource consent applications "subject to Part 2" of the RMA, specifically, sections 5, 6, 7 and 8.
545. The Court of Appeal has set out how to approach the assessment of "subject to Part 2" in section 104(1). In *R J Davidson* the Court of Appeal found that (in summary):³²
- a. Decision makers must have regard Part 2 when making decisions on resource consent applications, where it is appropriate to do so. The extent to which Part 2 of the RMA should be referred to depends on the nature and content of the applications planning documents being considered.
 - b. Where the relevant planning documents have been prepared having regard to Part 2 of the RMA, "*and with a coherent set of policies designed to achieve clear environmental outcomes*", consideration of Part 2 is not likely to "*add anything*". In this situation, the policies of these planning documents should be implemented by the consent authority. Consideration of Part 2 is not prevented, but Part 2 cannot be used to subvert" a clearly relevant restriction or directive policy in a planning document.
 - c. Where it is unclear from the planning documents whether consent should be granted or refused, and the consent authority has to exercise a judgment, Part 2 should be considered.
 - d. If it appears that the relevant planning documents may not have not been prepared in a manner that reflects the provisions of Part 2, the consent authority is required to consider Part 2.
546. A detailed assessment of objectives and policies of relevant statutory documents has been provided in section above. The Applicant also provides assessment in each of the applications. I have included a brief discussion of each section of Part 2 of the RMA.

Section 5 Purpose

547. Section 5 of the RMA states that its purpose is to:
- promote the sustainable management of natural and physical resources.*
548. Section 5(2) then goes on to state that:

³² *R J Davidson Family Trust v Marlborough District Council* [2018] NZCA 316.

In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while-

- a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
- b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
- c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.*

549. The activities sought to be authorised here provide obvious benefits to people and communities to provide for their social and economic wellbeing and for their health and safety by providing a means of discharging wastewater after treatment at the Shotover WWTP.
550. As concluded in the assessment of effects, the activity will have adverse effects at a range of magnitudes.
551. The Applicant acknowledges that the discharge of treated wastewater to water has more than minor impacts on cultural values. I understand engagement between Kāi Tahu ki Otago, Nga Papatipu Rūnanka ki Murihiku and the Applicant is ongoing with the intent of developing consent conditions that may mitigate some of the of the impacts on cultural values identified.

Section 6 Matters of national importance

552. Section 6 describes matters of national importance which should be recognised and provided for. I note the following in particular the need to recognise and provide for:
- a. Section 6(a) – the preservation of the natural character of rivers (and other bodies of water) and their margins, and the protection of rivers (and other water bodies) from inappropriate subdivision, use and development.
 - b. Section 6(d) - the maintenance and enhancement of public access to and along rivers. Activities associated with the diversion channel and the discharge itself will not restrict access to the river, except when works are being undertaken. The Applicant has placed signs to alert the public to the discharge.
 - c. Section 6(e) - the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, wahi tapu and other taonga. The discharge of treated wastewater to natural water, and the associated diversion channel, are activities that fundamentally conflict with Kāi Tahu cultural values. I consider the cultural impacts of the applications sought will require further exploration through the Court process.

Section 7 Other matters

553. Section 7 lists the matters that particular regard must be had to in achieving the purpose of the RMA. I note the following in particular:
- a. Section 7(a) refers to kaitiakitanga. I understand kaitiakitanga to mean the processes tāngata whenua use to provide for cultural wellbeing, to protect the mauri of natural and physical resources and, therefore, the people themselves. I consider further opportunities for tangata whenua to provide input into the development of consent conditions and being part of the ongoing monitoring to the extent that they desire may go some way to provide for kaitiakitanga.
 - b. Section 7(aa) refers to the ethic of stewardship. I consider the life-supporting capacity of the environment will be maintained as a result of the applications

undertaken with appropriate controls (if consent is granted), despite degradation of freshwater.

- c. Section 7(b) refers to the efficient use and development of natural and physical resources. Stage 3 treatment of wastewater is operational, meaning wastewater is being treated to the extent currently possible at the WWTP. There is expected to be degradation of freshwater quality but it is not expected that aquatic ecosystems will be impacted by the discharge.
 - d. Section 7(c) refers to the maintenance and enhancement of amenity values. Some uncertainty remains in relation to the impact of the discharge meeting the standards for contact recreation in the Kaware WCO. If those standards are not able to be achieved, this would impact recreational values, which would subsequently impact amenity values.
 - e. Section 7(d) refers to the intrinsic values of ecosystems. While there is expected to be degradation of freshwater quality, it is not expected that aquatic ecosystems will be significantly impacted by the discharge based on historic monitoring. This indicates that the intrinsic values of ecosystems will remain intact, but reinforces the importance of monitoring and response procedures in the event of unanticipated ecological effects.
 - f. Section 7(f) refers to maintenance and enhancement of the quality of the environment. I consider there is some tension with Section 7(f) as while there is expected to be degradation in freshwater quality which is not consistent with the directive to maintain and enhance, it is not expected that aquatic ecosystems will be significantly impacted by the discharge based on historic monitoring. I consider this reinforces the importance of monitoring and response procedures in the event unanticipated ecological effects occur.
 - g. Section 7(g) is any finite characteristics of natural and physical resources. I do not consider there applications impact on natural or physical resources with finite characteristics.
 - h. Section 7(h) is the protection of the habitat of trout and salmon. It is not expected that aquatic ecosystems will be impacted by the discharge and the Applicant proposes measures be implemented to ensure trout and salmon are not impacted by bed disturbance works.
554. Section 7(i) refers to the effects of climate change. A duration of 5 years is sought, therefore I consider the effects of climate change are likely minimal.
555. I consider matters 7(a) and (c) will require further exploration through the Court process.

Section 8 Treaty of Waitangi

556. Section 8 requires all persons exercising functions and powers under the RMA to take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi). I consider the principles of most relevance here include partnership and protection of Māori interests and active participation of tangata whenua in resource management decision making.
557. In terms of the protection of Māori interests, I consider there are fundamental cultural concerns associated with the discharge of treated wastewater to the Shotover River/Kimiākau that cannot be mitigated through the measures proposed. In terms of active participation, the status of Kāi Tahu as mana whenua has been recognised. The applicant has engaged with Kāi Tahu ki Otago and Nga Papatipu Rūnanga ki Murihiku and both rūnanga have lodged submissions on the applications. The interests and concerns raised in those submissions have been discussed in this report and have informed the assessment of actual and potential effects.

558. Both Kāi Tahu ki Otago and Nga Papatipu Rūnanka ki Murihiku seek the opportunity to develop conditions of consent in conjunction with the Applicant that mitigate the effects on the values, rights and interests of mana whenua. I support this approach. A collaborative development of consent conditions may enable some of the impacts on cultural values identified to be monitored and managed over the duration of consent sought. If so, the principles of Te Tiriti o Waitangi, partnership, participation and protection may have been brought into account.

Section 108 and 108AA Conditions of resource consents

559. Section 108 enables the consent authority to impose conditions subject to the restrictions in Section 108 and Section 108AA.
560. In accordance with Section 87F(4)(b) this report provides suggested conditions that should be imposed if the Environment Court grants the applications. As highlighted in this report, there are a number of suggested consent conditions that I consider require additional discussion amongst parties to ensure they are sufficient to mitigate effects to the extent that is required and/or possible. I also note that the submissions of Kāi Tahu ki Otago and Nga Papatipu Rūnanka ki Murihiku explicitly seek to develop conditions of consent in conjunction with the Applicant. These include:
- a. Conditions that demonstrate the ongoing use of the diversion channel as a mitigation measure for the treated wastewater discharge. This includes procedures to monitor the diversion channel area and undertake works as soon as possible whenever necessary to repair or reinstate the channel when required;
 - b. Conditions requiring the use of contingency measures should the necessary dilution not be achieved at the discharge point;
 - c. Conditions requiring a standalone Contingency and Incident Response Plan; and
 - d. Conditions to manage impacts of riverbed disturbance activities on avifauna and how the implementation of these conditions are reconciled with (a).

Section 217 Effect of water conservation order

561. Section 217 is relevant to water conservation orders and consideration of resource consent applications and is excluded from the RMA Sections that a required to be addressed by Section 87F(4)(a).
562. The impact of Section 217 on resource consent decision making was cited in a number of submissions.
563. Section 217(2) provides direction to the relevant consent authority where a water conservation order is operative. Sections 217(1) to (c) state the relevant consent authority:
- a. *shall not grant a water permit, coastal permit, or discharge permit if the grant of that permit would be contrary to any restriction or prohibition or any other provision of the order:*
 - b. *shall not grant a water permit, a coastal permit, or a discharge permit to discharge water or contaminants into water, unless the grant of any such permit or the combined effect of the grant of any such permit and of existing water permits and discharge permits and existing lawful discharges into the water or taking, use, damming, or diversion of the water is such that the provisions of the water conservation order can remain without change or variation:*
 - c. *shall, in granting any water permit, coastal permit, or discharge permit to discharge water or contaminants into water, impose such conditions as are*

necessary to ensure that the provisions of the water conservation order are maintained.

564. As stated above, there is uncertainty at this stage about whether the standards for contact recreation in the Kawarau WCO will be met. This aspect will require further consideration through the Court process.
565. Subject to the contact recreation standards being met, I do not consider the outstanding characteristics sought to be protected by the Kawarau WCO will be compromised and Section 217 does not prevent the granting of resource consent.

Section 123 Duration

566. Section 123 is relevant to the duration of consent and is excluded from the RMA Sections that are required to be addressed by Section 87F(4)(a). I consider the duration of resource consent will be a matter for the Court to consider and note that the Applicant seeks a duration of 5 years for all resource consents sought. The technical advice referred to in this report has considered the applications on the assumption that consents might be granted for 5 years.

Conclusion

567. RM25.206 and RM25.177 seek to authorise the discharge of treated wastewater to the Shotover/Kimiākau and associated riverbed works to establish and maintain a diversion channel. The WWTP, discharge channel and proposed diversion channel are recognised as regionally significant infrastructure and its continued operation is necessary to safeguard human health and community wellbeing.
568. Technical advice obtained confirms, based on the information that we currently have available that freshwater quality will degrade as a result of the treated wastewater discharge, but historical ecological monitoring, undertaken when lower quality wastewater was discharged to the Shotover River/Kimiākau indicates that significant adverse effects on aquatic life are unlikely. Provided the diversion channel is effective at maintaining a continually flowing braid past the discharge point, the adverse effects on surface water quality are considered less severe.
569. Surface water quality, aquatic ecology and hydrological impacts of the proposed river bed disturbance and diversion can be appropriately managed through conditions of resource consent. Effects on fish passage, the form, function, wild and scenic characteristics of the Shotover/Kimiākau and Kawarau Rivers are considered low. However there are some areas of uncertainty regarding:
- a. The ability to reliably maintain the diversion channel under the dynamic conditions of the Shotover/Kimiākau;
 - b. How the discharge will be managed in the event the necessary dilution is unable to be achieved. Particularly in combination with the procedure proposed to minimise effects on nesting avifauna;
 - c. The impacts on contact recreation, particularly adherence to the CR standards prescribed by the Kawarau WCO; and
 - d. Impacts arising from avifauna attraction on the operation of QACL.
570. There are fundamental impacts on cultural values due to the discharge of treated wastewater to the Shotover/Kimiākau and the creation of the diversion channel for this purpose. These impacts are unable to be resolved.
571. The applications are considered generally consistent with the regional planning framework that enable regionally significant infrastructure. At the same time, there are policy tensions and contraventions in particular because of impacts on the significant values of outstanding water bodies and cultural values. As mentioned above, some of

these impacts, including the impact on cultural values, are unable to be resolved. Ultimately, while the life supporting capacity of the environment is expected to be maintained, the proposal will result in degradation of freshwater quality.

572. If the Court decides to grant the applications, I consider that comprehensive and enforceable conditions will be required. I consider that further engagement between parties on the suggested conditions and to resolve some of the uncertainties listed above will also assist before a final decision is made.



Hannah Goslin

Consultant Consents Planner

2 December 2025

Decision under delegated authority:

Under delegated authority, this s87F Report is approved for lodgement with the Environment Court by the Otago Regional Council.



Alexandra King

Manager Consents and Manager Environmental Delivery Data and Systems

2 December 2025