

Decision following the hearing of an application for resource consent under the Resource Management Act 1991



Proposal

To construct a pipeline and outfall structure (including disturbance of the seabed, use and occupation of the coastal marine area) and to discharge treated wastewater to the Waiuku Estuary.

The resource consents are **GRANTED**. The reasons are set out below.

Application numbers:	R/REG/2016/2749 & R/REG/2016/2751
Site address:	Coastal Marine Area within the Waiuku Estuary adjacent to the Clarks Beach Golf Course, Clarks Beach
Applicant:	Watercare Services Ltd
Hearing commenced:	Wednesday 11th, Thursday 12th & Friday 13th August 2017, 9.30am
Hearing panel:	Kitt Littlejohn Janine Bell Mark Farnsworth
Appearances:	<p><u>For the Applicant:</u> Padraig McNamara, Legal Counsel Raveen Jaduram, Watercare Mark Bourne, Watercare Shane Morgan, Watercare Tanvir Bhamji, Watercare Jim Bradley, Stantec Alan Pattle, Pattle Delamore & Partners Garrett Hall, Stantec Leigh Auton, Auton Associates Richard Waiwai, Te Hautapu Consultants Ltd Gary Tear, OCEL Paul Kennedy, Golder Associates John Oldman, DHI Mike Stewart, Streamlined Environmental Ltd Michael Townsend, NIWA Graham McBride, NIWA Mark James, Aquatic Environmental Services Dave Serjeant, Merestone Ltd</p> <p><u>For the Submitters:</u></p>

	<p>Vicki Toan, Legal Counsel, Kingseat Group James Hook, Planner, Kingseat Group Grant Hewison, Legal Counsel Manukau Harbour Restoration Society Gemma Allen, Manukau Harbour Restoration Society Bronwen Turner, Manukau Harbour Restoration Society Richard Gibbons, Gibbons Family Trust Gary Whyborn Dennis Kirkwood, Heamana (Chair) Ngati Tamaoho Trust Lucie Rutherford, Ngati Tamaoho Trust Roimata Minhinnick, CEO Ngati Te Ata</p> <p><u>For Council:</u> Richard Blakey, Reporting Planner Kala Sivaguru, Coastal Ecologist Emma Hammond, Water Quality Specialist David Hume, Wastewater Engineer Andrea Chung, Hearings Advisor</p>
Hearing adjourned	13 October 2017
Commissioners' site visit	12 October 2017
Hearing Closed:	7 November 2017

Introduction

1. This decision is made on behalf of the Auckland Council (**Council**) by Independent Hearing Commissioners Kitt Littlejohn, Janine Bell and Mark Farnsworth, appointed and acting under delegated authority under sections 34 and 34A of the Resource Management Act 1991 (**RMA**).
2. This decision contains the findings from our deliberations on the application for resource consent and has been prepared in accordance with section 113 of the RMA.
3. The applications were publicly notified on 4 August 2016. A total of 20 submissions were received, with 5 in support and 15 in opposition.

Summary of proposal and activity status

4. Watercare Services Limited (**Watercare**) seeks resource consents for the discharge of treated wastewater into the Waiuku Estuary, in the south Manukau Harbour, and for the construction of a new sub-surface/submerged pipeline and outfall structure to convey and diffuse the wastewater into the coastal marine area. The discharge, and outfall structure occupation and use permits have been sought for a term of 35-years (under section 123 of the RMA) and with an extended lapsing date of 8 years (under section 125 of the RMA). A detailed set of

conditions, including in relation to monitoring and review are put forward as part of the application.¹

5. Watercare has selected an outfall location within the Waiuku Channel 100 metres south of the existing Clarks Beach Wastewater Treatment Plant (**WWTP**) outfall. The outfall will be located in the deepest part of the Estuary, up to 9 metres below Mean High Water Springs (MHWS), and discharge the treated wastewater on an outgoing tide to maximise dispersal. The existing ponds at the Clarks Beach WWTP are to be used for storage of the treated wastewater prior to its discharge into the coastal environment.
6. The outfall will use a 100 - 120 metre long, 0.9 metre diameter, diffuser running into the estuary channel². Watercare advise that the discharge dilution rates are expected to be as set out in Table 1 below:

Distance from Outfall	Dilution Factor
50m	At least 500x
200m	900-2,000x
500m	5,000 – 10,000x
More than 500m	More than 20,000x

Table 1 – Expected Dilution Rates

7. The outfall structure will be constructed from polyethylene (PE) pipe, given PE’s low risk of corrosion and flexibility, both of which are important design factors for a coastal structure. Its construction will involve the dredging of a trench in the seabed, with the pipe being submerged into it and the trench back-filled. Where the seabed substrate is too tough to trench by normal methods, Watercare will either secure the outfall to the seabed via the use of rock bolts, or the use of “drill and blast” explosives.
8. The onshore connection to the outfall will be constructed using horizontal directional drilling (HDD) to a location below MHWS. After floating the outfall pipe into position, it will be connected to a HDD drill string and pulled into the HDD borehole, thereby providing a watertight connection. The remaining sections of pipe will be floated and sunk into position, while concrete weights will anchor it to the seabed. The final section of the outfall, the diffuser, will be secured by divers and a piling hammer.
9. Watercare also proposes to establish a pipe fabrication area on-shore, where pipe lengths will be welded and fitted together. Possible locations include the existing Clarks Beach WWTP or beside the Clarks Beach Yacht Club.

¹ Refer Watercare’s Final conditions in Reply.

² Refer Figure 5.5 of AEE.

10. The wastewater to be discharged will originate from the communities of Clarks Beach, Glenbrook Beach, Kingseat and Waiuku (which we refer to as the South-West Growth Area (“**SWGA**”)). The wastewater discharge, which will have an average dry weather flow rate of 6,750m³/day, and up to 20,250m³ of peak wet weather flow, is to be treated at an upgraded treatment plant located on the site of the existing Waiuku WWTP. The treated wastewater will be discharged from a diffuser structure of 100-120 metres length, extending into the Waiuku Estuary from a position adjacent to and approximately 100 metres from the 12th green of the Clarks Beach Golf Course.
11. Although the bulk of the components and processes that will form part of the new wastewater system for the SWGA are not before us for consenting consideration, as they all ultimately affect the quantity and quality of the wastewater to be discharged, we propose to describe them briefly for context.
12. The new SWGA wastewater network will include more than 25km of rising main and four pump stations which will feed to a new plant at the existing Waiuku WWTP site, with the capacity to serve up to 30,000 persons. The network and the plant will be subject to further design and additional RMA approval processes, however Watercare has advised that the upgraded WWTP will likely operate with a combination of biological nutrient removal (“**BNR**”) and membrane filtration technology (“**MF**”) to reduce the quantity of nitrogen (N) discharged into the coastal environment (which has been identified as the primary contaminant of concern). In addition, ultra-violet (UV) disinfection will be used to protect human health through the destruction of microorganisms within the wastewater.
13. Overall, the plant will use the following process:
 - Fine screening;
 - Grit removal;
 - Biological nutrient removal;
 - Membrane filtration;
 - UV disinfection;
 - Sludge thickening, stabilisation and dewatering; and
 - Odour control.
14. The wastewater discharge will achieve the treatment parameters set out in Table 2 below³:

³ Table 5.1 of the AEE.

Parameter	Unit	Median	92 nd Percentile Limit
cBOD ₅ ⁴	mg/L	5	20
TSS	mg/L	5	20
TN ⁵	mg/L	5	20
Amm-N	mg/L	1	20

Table 2 – Discharge Treatment Parameters

15. Resource consents are needed for the following reasons under the Auckland Council Regional Plan: Coastal (“**ACRP:C**”) and the Auckland Unitary Plan (Operative in Part) (“**AUP(OP)**”):

Coastal permits (s15) – R/REG/2016/2749

16. The proposal involves the discharge of treated wastewater into the Waiuku Estuary. This requires consents under the following plans.

Auckland Council Regional Plan: Coastal (**ACRP:C**)

17. The proposal involves discharges of treated wastewater to the CMA. Pursuant to Rule 20.5.6, this requires consent as a *Discretionary Activity*.

Auckland Unitary Plan (Operative in Part) (**AUP(OP)**)

18. The proposal involves “*discharges of treated wastewater from a wastewater treatment plant*” into the CMA. Pursuant to F2.19.7 (A69), this requires consent as a *Discretionary Activity* in the General Coastal Marine Zone (“**GCMZ**”).

Coastal permits (s12) – R/REG/2016/2751

19. The proposal involves the construction of a pipeline and outfall structure, disturbance and use and occupation of the seabed. This requires consents under the following sections of the ACRP:C and AUP(OP):

Auckland Council Regional Plan: Coastal

20. Rule 10.5.9: Occupation of the CMA by the wastewater outfall and ancillary structures, as a *Discretionary Activity*;

⁴ BOD is Biological Oxygen Demand, while cBOD is a measure of the amount of oxygen consumed in breaking down carbonaceous compounds (i.e. organic carbon). Watercare’s s92 response of 19 April 2017 (refer Attachment 3 to the application documents) advises that “*the proposed wastewater treatment standard of cBOD5 is considered best practice for wastewater treatment plant discharge compliance and is used in New Zealand almost without exception nowadays*”.

⁵ Watercare’s s92 response of 19 April 2017 also confirms that the proposed WWTP configuration for a BMF (Biological Membrane Filtration) process is capable of achieving a median treated wastewater standard of 5 mg/L for Total Nitrogen (TN). The s92 response advises that while Watercare does not have an operating WWTP of similar technology and scale, the treatment process has been commonly adopted overseas, and by the Rotorua Lakes Council which is advised to comfortably achieve a median TN concentration of less than 5 mg/L. Footnotes are from the s42A hearing report, may not be required to be included in the decision.

21. Rule 12.5.17: Occupation of the CMA by the wastewater outfall and ancillary structures constructed and located entirely below the surface of the foreshore and seabed in areas other than prohibited anchorage areas, as a *Restricted Discretionary Activity*;
 22. Rule 11.5.5: Use of the CMA with the wastewater outfall and ancillary structures as a *Discretionary Activity*;
 23. Rule 12.5.18: Erection of wastewater outfall and ancillary structures in the CMA using marine trenching and HDD and the surface laid diffuser section, as a *Discretionary Activity*; and
 24. Rule 17.5.1: Deposition of material to backfill material for trenching methodology, as a *Discretionary Activity*.
- Auckland Unitary Plan (Operative in Part)
25. F2.19.2 (A10): Coastal marine area depositing of material not otherwise provided for, as a *Discretionary Activity*;
 26. F2.19.4 (A37): Coastal marine area disturbance that is not otherwise provided for within GCMZ, as a *Discretionary Activity*;
 27. F2.19.8 (A114): Impact and vibratory piling, as a *Restricted Discretionary Activity*;
 28. F2.19.10 (A121): Coastal marine area structures and buildings unless provided for elsewhere in the GCMZ, as a *Discretionary Activity*;
 29. F2.19.10 (A127): Occupation associated with coastal marine area structures located below the surface of the foreshore and seabed in areas other than cables in the cable protection areas (as identified on the planning maps), as a *Restricted Discretionary Activity*; and
 30. F2.19.10 (A133): Infrastructure coastal marine area structures not otherwise provided for, as a *Discretionary Activity*.

Status of the applications

31. The proposal involves multiple resource consents under different plans. Where there is an overlap between the consents and / or the effects of the activities – so that consideration of one could affect the outcome of another – the appropriate practice is to treat the applications together.
32. In this instance:
 - (a) All the consents are discretionary activities; and
 - (b) The consents required, and the matters controlled under the operative plan and proposed plan overlap given their association with the operation of a wastewater treatment plant.

33. The resource consents required overlap, and are considered together as a discretionary activity overall.
34. It is noted that at the time of completing this decision, the rules under the Coastal chapter of the AUP(OP) remain as a “proposed plan”. Although all appeals to the Coastal chapter have been resolved, it has not yet been approved by the Minister of Conservation. Once that decision is made, the consents under the ACRP:C would no longer be required.

Procedural matters

35. There were no procedural matters (including in relation to late submissions) that required determination at the hearing.
36. At the hearing, we made an order under section 42 of the RMA that the cultural reports prepared by Ngati Tamaoho and Ngati Te Ata not be made available to submitters or the general public on the grounds that they contained information of a culturally sensitive nature.

Relevant statutory provisions considered

37. In accordance with the RMA, we have had regard to the following statutory provisions:
 - Sections 104, 104B, 105, 107, 108, 123, 125 and 128 of the RMA.
 - Part 2 (sections 5, 6, 7 and 8) as an overall “check” to ensure our analysis/determinations achieve the purpose of the RMA.

Relevant standards, policy statements and plan provisions considered

38. In accordance with section 104(1)(b)(i)-(vi) of the RMA, we have had regard to the relevant policy statements and plans:
 - New Zealand Coastal Policy Statement 2010.
 - Auckland Regional Plan: Coastal.
 - Auckland Unitary Plan (Operative in Part).
39. We also considered the following other matters to be relevant and reasonably necessary to determine the application in accordance with section 104(1)(c) of the RMA.
 - The Auckland Plan.
 - Marine and Coastal Area (Takutai Moana) Act 2011.

Summary of evidence heard

40. The Council's section 42A report and planning officer's recommendation was circulated prior to the hearing and taken as read. The report included all of the application material submitted by Watercare in support of its application, further information provided in response to section 92 further information requests from council officers and specialist reviewers, and all submissions received on the application.
41. The planning officer engaged to process the application and prepare a recommendation on it was Mr Richard Blakey. A summary of Mr Blakey's qualifications and experience was included as Attachment 10 to the report.
42. Specialist reviews of the application were also completed by Dr Kala Sivaguru (Senior Coastal specialist), Emma Hammond (Water Quality Specialist), David Hume (Wastewater Engineer) and Peter Cressey (Risk Assessment).
43. Prior to the hearing, the applicant filed its written evidence in support of the application for the hearing. A number of submitters also filed evidence prior to the hearing. Generally, the evidence responded to the issues and concerns identified in the planning officer's report and recommendation, the application itself and the submissions made on the application.
44. All of this pre-filed material and evidence was reviewed by the Commissioners prior to the hearing and was taken as read at the hearing. At the hearing, the witnesses either read a summary of the evidence or spoke to their evidence albeit with all persons presenting being given an opportunity to summarise their evidence and comment on matters that were in contention and/or questions from the Commissioners.
45. For the purposes of section 113 of the RMA, we provide a brief summary of the evidence heard below.

Watercare's Case

46. **Mr Pdraig McNamara**, legal counsel for Watercare, spoke to opening legal submissions that had been prepared by himself and Ms A Maddox.
47. Mr McNamara:
 - Provided an overview of the key drivers that underpin the proposal, emphasizing the significant growth the South-West Growth Area is expected to experience.
 - Described the proposed scheme, pointing out that the existing WWTPs (Kingseat, Clarks Beach and Waiuku) are at capacity and unable to accommodate the expected growth.
 - Advised that the proposed scheme represents a significant investment of \$128M for Watercare.

48. Mr McNamara noted that Watercare would be calling 18 witnesses. He then addressed five legal matters:
- *Extended lapse period* – submitting that an extended lapse period was necessary to allow scheme components to be completed.
 - *A consideration of alternatives* - submitting that Schedule 4 only requires a description of possible alternatives. The applicant is not required to demonstrate that the proposal presents the best use of the subject resources, or is best in net benefit terms.
 - *Consent duration* – submitting that the applicant has adopted the Best Practicable Option (**BPO**) for this project and needs security for their existing and future investments, and that consent should be granted for a 35-year term.
 - *Part 2 of RMA* – submitting that the proposal gives effect to Part 2.
 - *Compliance Monitoring Point* – submitting that the appropriate point for assessing performance of the new WWTP in terms of consented discharge parameters will be at the new Waiuku WWTP immediately after UV disinfection.
49. Mr McNamara clarified issues raised in the officer’s report. In addressing submitters’ evidence, it was noted that the only submitter evidence filed was from parties supporting the granting of consent (Kingseat Group and the Waikato District Council).
50. **Mr Raveen Jaduram**, the Chief Executive of Watercare, provided an overview of Watercare’s operations noting that the company is responsible for the provision of integrated water and wastewater services to approximately 1.4 million people in Auckland. Watercare, as an ‘Auckland water organisation’, has a defined statutory obligation. Watercare’s Statement of Intent (**SOI**) recognizes the need to work collaboratively to provide new water and wastewater infrastructure in response to growth in Auckland. This proposal has an estimated capital cost of \$128M. Watercare is also committed to better understanding the Manukau Harbour as evidenced by its investment in the Manukau Harbour hydrodynamic and water quality models.
51. **Mr Mark Bourne**, the Manager of Infrastructure and Environmental Planning at Watercare, provided evidence which explained the drivers for the project and how it would be developed and Watercare’s approach to the ‘best practicable option”. He also summarised Watercare’s engagement with mana whenua and the wider

community in relation to the project and provided rationale for seeking the extended lapse period of 8 years.

52. Mr Bourne stressed the following points:

- A key project driver has been Watercare's responsibility to plan for and facilitate growth in Auckland through the provision of water and wastewater services.
- Watercare is committed to utilizing the BPO.
- Watercare is committed to meaningful engagement with mana whenua. For this Project, there is a relationship agreement with Ngāti Te Ata.
- Given the nature of the work to be undertaken and its timing an extended lapse period of 8 years is both necessary and appropriate.
- The capital cost of the Project is \$128M.

53. Mr Bourne also noted that in order to achieve financial security and provide certainty for future investment and growth, it is important for Watercare to have long term certainty for the on-going operation of the proposed discharge and that a 35-year duration is therefore appropriate.

54. **Mr Tanvir Bhamji**, the Senior Resource Consent Planner at Watercare, addressed Watercare's responsibility to plan for growth, which requires Watercare to adopt a long-term planning approach taking into account the long lifespan of its assets and the importance of the provision of water and wastewater services.

55. Mr Bhamji provided us with information on Watercare's comprehensive consultation process, including its engagement with the wider mana whenua groups. He also noted that Watercare has met with New Zealand Steel to discuss the potential beneficial reuse of treated wastewater at the Glenbrook Steel Mill. Watercare has also consulted with the Manakau Harbour Restoration Society not only to discuss their submission but any other matters they wished to raise.

56. **Mr Shane Morgan**, the Operations Manager Wastewater at Watercare, provided a brief of evidence which addressed:

- A description of the existing WWTP at Clarks beach, Kingseat and Waiuku;
- How the Biological Nutrient Removal and Membrane Filtration and UV disinfection processes work;
- Matters raised by submitters and the s42A Report.

57. Mr Morgan noted that the treatment process to be used represents a significant step up in treatment technology and will allow for the decommissioning of the existing WWTPs serving the SWGA. The proposed scheme will be commissioned within 8 years, with a series of steps needed to be completed before the proposed discharge to the Waiuku Estuary can commence.

58. Mr Morgan stated that Watercare is committed to addressing the concerns of submitters in relation to the operation of the project and he proffered the viewpoint that proposed conditions of consent will achieve this purpose.
59. **Mr James Bradley**, a Senior Consultant – Wastewater and Public Health Engineer at Stantec New Zealand Limited, gave evidence which addressed: the identification and technical development of alternatives; technical information on the shortlisted options; the appropriateness of the Biological Nutrient Removal and Membrane Filtration and UV disinfection treatment process (BNR+MF+UV) as the BPO; future flexibility; the 35-year consent duration and the officer’s report. In speaking to his key points Mr Bradley provided justification and highlighted:
- BNR+MF+UV is an appropriate solution;
 - The officer’s report concludes that: assessment of alternatives and BPO analysis is considered robust and the chosen BPO is reasonably justified when factoring in the receiving environment;
 - Support for the monitoring and technology conditions proposed by Watercare and the 35-year consent duration.
60. **Mr Alan Pattle**, a Water Resources Engineer at Pattle Delamore and Partners Limited, provided evidence which addressed the technical feasibility for land application (**LA**) and managed aquifer recharge (**MAR**) as possible alternatives to a coastal water discharge. The technical assessments indicated that LA and MAR discharge options were likely to be potentially feasible for the SWGA scheme for the entire 35-year consent application term. He confirmed that both options were considered with the BPO process and were assessed in a fair and transparent manner against the other discharge options.
61. **Mr Garrett Hall**, a Principal Environmental Consultant at Stantec New Zealand Limited, provided a comprehensive brief of evidence on the assessment of alternatives process. Mr Hall pointed out that a methodology was developed to underpin what he considered to be a robust, in-depth assessment of possible discharge alternatives (options). Matters such as treatment plant locations and conveyance routes were also considered as part of the alternatives assessment process.
62. A long-list of alternatives was developed which went through a three-stage process to arrive at the final selection:
- Stage-1 – Fatal Flaw Assessment;
 - Stage-2 – Traffic Lighting Assessment; and
 - Stage-3 – Multi-Criteria Analysis (MCA) and Top Ranked Alternatives Assessment.
63. Mr Hall was of the view that the assessment of alternatives process undertaken by Watercare was extensive and followed robust methodology.

64. **Mr Leigh Auton** provided a brief statement of evidence outlining the MCA process and his role in it. He explained that he had facilitated a number of workshops where the MCA methodology was actively engaged to provide a high degree of structure and rigour to debating and refining options. He noted that the while MCA process worked well for the project team, it did not work well for mana whenua. The significance to mana whenua of discharges of wastewater into other water bodies was acknowledged through the MCA process. Mr Auton confirmed that based on the MCA process he facilitated, the project team arrived at Option 5.
65. **Mr Richard Waiwai**, a Director for Te Hautapu Consultant Limited, acted as an independent cultural advisor for the project. Mr Waiwai provided an overview of the fundamental cultural concepts and principles which are important to Māori and a summary of the consultation undertaken with the Mana Whenua Working Group. The mauri of water is a fundamental indicator of sustainability. Enhancing mauri increases vitality, strengthens and improves the life supporting capacity of people and ecosystems. Mr Waiwai provided a summary of mana whenua consultation emphasizing that consultation was ongoing. Ngaati Te Ata have expressed their preference for a zero-waste option. Te Kawerau a Maki have advised that all the proposed options will have cultural impacts, but they will work with Watercare to find the BPO. Their most preferred option was the highest level of treatment and discharge to an aquifer. Ngaati Tamaoho do not support a further discharge pipe into the Manukau Harbour.
66. **Mr Gary Teear**, a Chartered Engineer and Managing Director of Offshore and Coastal Engineering Limited, provided evidence on site specific factors relevant to the construction methodology associated with the offshore outfall. He noted that construction would involve a combination of Horizontal Directional Drilling (HDD), to install the shoreline transition pipe, and a float and sink method to install the outfall pipe. He stressed there are no particular problems associated with the construction of the proposed outfall.
67. **Mr Paul Kennedy** a Principal Environmental Consultant with Golder Associates (NZ) Limited provided a brief of evidence that addressed the nature of the environment associated with the pipeline route and diffuser location. The installation of the pipeline from the Clarks Beach WWTP under the golf course to the inter-tidal shore of the Waiuku Estuary will be below the surface with no visible surface works along virtually all the route. There will be disturbance of the intertidal and subtidal resources along a strip of shore and seabed associated with trenching.
68. Trenching through exposed rock platform will be subjected to restoration with artificial rock (if necessary to replicate existing conditions). Where trenching is through sediment the material removed will be replaced. Minimisation of environmental effects will occur through the preparation and implementation of a number of environmental plans.
69. **Mr John Oldman**, a principal Coastal Scientist at DHI, provided evidence on the Manukau Harbour hydrodynamic model used to assess the potential effects of both a continuous and tidally staged discharge for a range of tidal and wind conditions.

Mr Oldman found that the calibrated model can reliably predict how the wastewater plume mixes with the Waiuku Estuary and the wider Manukau Harbour. The mixing provides a high degree of dilution at CB12, resulting in low contaminant concentrations away from the discharge site itself. Mr Oldman's evidence addressed: near field dilution; far field dilution; a consideration of alternative discharge sites; effects on salinity; cumulative effects; nitrogen concentrations and microbial impacts.

70. **Dr Michael Stewart's** evidence addressed water and sediment quality issues and looked at the potential effects and risks of contaminants of emerging concern (CECs). Dr Stewart is a Director and Environmental Chemist at Streamlined Environmental Limited. His evidence also addressed both Total Nitrogen (TN) and Total Phosphorous (TP). Based on water quality records of the Waiuku Estuary, his evidence was that discharges from the existing WWTPs do not appear to be currently affecting water or sediment quality in the Waiuku Estuary.
71. The total contribution of TN from the existing Waiuku and Clarks Beach WWTPs is 2% of the TN load from the Waiuku catchment. The TP represents 15% of the total TP load. The TN contribution from the new WWTP will be 50% more than the existing WWTPs but still only 3% of Waiuku catchment load. For phosphorous a range of TP concentrations are expected which will be 12% to 56% of the Waiuku load.
72. With regard to CECs there is sparse information on the fate and effects of CECs in New Zealand. A range of CECs has been measured in the Waiuku WWTP and all the CECs measured in the discharge are at levels below the applicable water quality guidelines. For all CECs, the BNR + MF + UV technology proposed for the new plant will likely show an overall reduction in CECs levels over the existing WWTP treatment.
73. **Dr Michael Townsend**, a Marine Ecologist at NIWA, provided a brief of evidence that addressed marine ecological matters. Dr Townsend provided an overview of the common species found around Ngahere Bay, Waiau Bay and Ohiki Creek, and close to the proposed CB12 discharge point. He noted that he mapped significant and extensive areas of the nuisance red algae in the south-west corner of the Manukau Harbour. Red algae was not present in Waiuku Estuary at the time of mapping.
74. **Mr Graham McBride**, a Principal Scientist – Water Quality at NIWA provided a brief of evidence that addressed: recent microbiological performance of Clarks Beach, Waiuku and Kingseat WWTPs; and a Quantitative Microbial Risk Assessment (QMRB) for the impact of the proposal on people using the southwest harbour waters. Both aspects of his evidence were covered in two prior NIWA reports prepared for the project. The 'indicator' study demonstrated that in 2015, as a result of improvements in microbiological treatment over recent years the Clarks Beach, Waiuku and Kingseat WWTPs had a less than minor effect on the Manukau Harbour receiving environment, and a no more than minor effect on the upper Waiuku Estuary in terms of faecal contamination.

75. The pathogens study concluded that to keep health risks at acceptable levels the future WWTP at Waiuku should be designed and operated to consistently achieve log₁₀-removal of at least 3 order-of-magnitude.
76. In addressing submitters' concerns Mr McBride proffered the view that the degree of removal of pathogens and viruses flowing into the new WWTP will be such as to minimize health risk associated with the plant.
77. **Dr Mark James**, an Aquatic Ecologist and Director of Aquatic Environmental Sciences Limited, provided an overview of the existing environment (concentrating on the receiving environment), and an assessment of the effects of the proposed discharge of treated wastewater to the Waiuku Estuary at the Clarks Beach site on the receiving environments of Clarks Beach and the Southwest Manukau Harbour. Key conclusions from his evidence were:
- The shoreline and benthic environment of the Manukau Harbour and its inlets have diverse and abundant biological communities.
 - Protection and enhancement of these values and ecosystem health overall is a key objective for the Manukau Harbour.
 - The effects (freshwater inputs or on salinity) are predicted not to be measurable.
 - The water quality of the treated wastewater in the discharge that enters the harbour will be a significant improvement compared to the existing WWTP discharges. The contribution to TN load to the Waiuku Estuary will improve in the short-term.
 - Excessive levels of nutrient are a major concern in New Zealand coastal waters being the prime driver of phytoplankton and macroalgae biomass and production.
 - Levels of CECs from the new WWTP are expected to be low but are an ongoing environmental risk. As further research becomes available CEC's and their effects will need to be reviewed.
 - Toxicity to harbour biota from ammonia and nitrate levels is unlikely to be an issue.
 - Conditions for benthic biota will improve and not be significantly adversely affected beyond the mixing zone as a result of the discharge.
 - The potential for effects on fish and bird populations is considered to be negligible.
 - The proposed discharges are expected to lead to improved water quality in the Upper Waiuku Estuary, in terms of contributions from WWTPs.
78. **Mr David Serjeant**, Town Planner and Director of Merestone Limited, filed a comprehensive brief of planning evidence. His evidence followed the standard

methodology of addressing the matters required by s104 for the consideration of resource consents. He proffered that:

- There was a high level of agreement between his analysis and the findings and recommendation of the Council officer's section 42A report.
- The provisions of the NZCPS and the AUP-OP (RPS and zone sections) relevant to the project have been comprehensively assessed.
- The most important aspect of the effects assessment is that the new WWTP will lead to an improvement of water quality in the Waiuku Estuary.
- The project will provide for population and economic growth at a rate envisaged by the Council's strategic planning documents.
- A critical element of the BPO approach is that the option chosen is informed by the views of mana whenua and that the potential effects on resources of importance to mana whenua have been recognized.

Submitters in Support

The Kingseat Group

79. **Ms V Toan**, Legal Counsel for The Kingseat Group, spoke to her legal submission in support of the application noting that the primary reason for the Group's support was that it would enable:
- Further development and population growth in the South West Growth Area, including the Kingseat precinct;
 - The replacement of existing WWTPs with an upgraded WWTP at Waiuku; and
 - The protection and enhancement of the Whatapaka Inlet at Kingseat.
80. **Mr James Hook**, a Director of Envivo Limited, provided a brief of planning evidence for the submitter. Having reviewed all the specialist and technical reporting and evidence provided by Watercare and Auckland Council, Mr Hook proffered the view that a comprehensive analysis of alternative options had been undertaken. Further he considered that specialist reviews had also informed the assessment process and resulted in further analysis and consideration by Watercare to ensure that the outfall proposal and its operational parameters are comprehensive and robust.
81. Mr Hook also considered that the proposed outfall structure within the Waiuku Creek represents the BPO for discharging treated wastewater from the existing settlements and from planned growth within the area and that the proposed use of membrane filtration and UV disinfection would ensure that wastewater effluent is treated to a sufficiently high quality, resulting in negligible adverse environmental effects from its tidal discharge into the Waiuku Estuary.

82. In respect of potential cultural effects, Mr Hook considered that Watercare has undertaken extensive consultation with mana whenua and has considered Maori values (tikanga) in the design of the outfall structure and the setting of performance standards and monitoring requirements for the associated WWTP upgrade. The environmental improvements associated with the project will benefit mana whenua in his view.
83. The proposal incorporates design, operational, monitoring, and management measures to minimise potential adverse effects on water quality, fisheries, and aquatic habitats. As such, Mr Hook was of the view that it is not necessary to give further detailed consideration to potential alternative methods such as disposal to land, or the construction of an outfall structure to the Tasman Sea.

Ngati Te Ata

84. **Mr Roimata Minhinnick**, CEO Te Ata Rangatu o Te Iwi o Ngati Te Ata Waiohau, spoke to a 'powerpoint' presentation.
85. Mr Minhinnick provided:
- Background information on Kaitiakitanga and how Ngati Te Ata are exercising it.
 - Ngati Te Ata's engagement with Watercare and the assessment made, with an emphasis on their core values of: a good natural environment; a healthy balance in the human made environment; empowering mana whenua; and the enabling of sustainability and innovation.
86. Ngati Te Ata provided its full support to the Project and the applications. Mr Minhinnick confirmed that Ngati Te Ata look forward to working with Watercare into the future.

Federated Farmers of New Zealand (Tabled)

87. **Mr Richard Gardner**, Legal Counsel for Federated Farmers of New Zealand, filed a submission in support of the application, noting that the application raised no issues of concern to the rural property owners in the vicinity of the location of the proposed activity.
88. Mr Gardner questioned the need for the order made under section 42 to keep the mana whenua Cultural Impact Assessments confidential. As this submission was made after the making of the order, we are *functus officio* and any complaint to overturn this ruling must be by way of judicial review.

Kingseat Village Limited, Linwood Acres Limited and Juliet & Frank Reynolds (Tabled)

89. **Mr Douglas Allan**, Legal Counsel for these submitters, advised by email prior to the hearing that after reviewing the extensive evidence filed on behalf of Watercare the submitters did not propose to provide any further evidence or submissions. Mr Allan indicated that his clients adopted the case for the project put forward by Watercare.

Waikato District Council (Tabled)

90. **Mr Stephen Howard**, Senior Planner at the Waikato District Council (WDC), advised that a principal reason for WDC support for the project is the strategic and financial planning demonstrated by Watercare in order to provide an affordable 'state of the art' solution that accommodates both existing and future populations to be served.

Submitters in Opposition

Ngati Tamaoho Trust

91. The Ngati Tamaoho Trust was represented by **Mr Dennis Kirkwood, Ms Lucie Rutherford** and **Mr Carl Wawatai**. Together they provided:
- An overview of the great importance of the Te Mānaukanuka O Hoturoa (Manukau Harbour), and its resources to them.
 - Their long association with the land and harbour.
 - Their approach to the environment and their Kaitiakitanga role and the underpinning need for sustainable development.
 - Their approach to wastewater and the advocated need for land disposal.
 - Their concerns on hormones and other chemicals (e.g. such as methamphetamines) being part of any discharge.
92. The representatives for Ngati Tamaoho Trust asked that the application be declined. However, they had a number of recommendations in the event that the application is granted, including that:
- Watercare continues to investigate alternative options for treated wastewater disposal, preferably to land, with the aim of no discharge to the harbour.
 - Watercare and Ngati Tamaoho continue to fully engage to reach agreement.

Ian Bell

93. **Mr Bell**, in providing a representation on 'matters of principle', did not dispute any of the technical data. However, he was of the view that:
- The discharge should be to land; and
 - An alternative disposal site could be the Waiuku Forest.

Mr Gary Whyborn

94. **Mr Whyborn** spoke to a written presentation outlining his rationale why the proposed diffuser will have adverse effects of the environment. He listed what he considered to be various BPO failures and provided an analysis of why the application does not comply with the relevant statutory planning documents. Mr Whyborn recommended that the application not be granted.

The Gibbons Family Trust

95. Members of the Gibbons family (**Mr Richard Gibbons, Rev Sandra Gibbons, Dr Ruth Gibbons & Ms Talitha Gibbons**) spoke to their combined written representation pointing out:
- The proposed solution is a “think big” approach, locking in an approach using existing technology and thinking, which could produce a sub-optimal, costly result.
 - Watercare should take the opportunity to establish an ocean discharge pipe.
 - Build smaller plants to cater for growth.
 - Redevelop the Clarks Beach WWTP – connect to ocean discharge pipe
 - Upgrade Glenbrook WWTP – connect to ocean discharge pipe
 - Move the Waiuku WWTP away from water’s edge.

The Manukau Harbour Restoration Society Incorporated (MHRS)

96. **Dr Grant Hewison**, Legal Counsel for MHRS, presented legal submissions in opposition to the application. He recorded that MHRS has been established in 2011 to provide a ‘whole of harbour’ perspective to drive programmes to address the serious environmental issues affecting the Manukau Harbour. He outlined MHRS’s key concerns, stressing that there were alternative methods for the discharge which would avoid discharge into the coastal marine area.
97. Dr Hewison outlined various statutory and planning considerations, noting that MHRS considers that the application is contrary to identified key objectives and policies of the relevant planning instruments, and that the resource consents sought should therefore not be granted. In the event that consent is granted, he suggested additional measures to be incorporated to adequately mitigate the adverse effects of the proposal.
98. **Ms Gemma Allen**, with experience in wastewater biology, spoke to her written representation focusing on: TP or DRP; and the necessity of retaining long term receiving environment monitoring for the duration of the consent.
99. Ms Allen provided a rationale for her concerns over TP and DRP, in light of the fact that no limits were being proposed in the consent for either. She noted that unless limits are included in the consent, and monitoring of the receiving environment continues for the duration of the consent, Watercare cannot say with any certainty that effects on the environment will be less than minor and the receiving environment will not be further degraded. Accordingly, in her view, consent should be declined.

100. **Ms Bronwen Turner**, a founding member of the Manukau Harbour Restoration Society (MHRS), addressed the following key matters in her presentation:
- An overview of MHRS;
 - An MHRS view on the history of neglect of the Manukau Harbour;
 - A consideration of alternatives driven by the need that the harbour is already over-burdened by discharges of wastewater;
 - Volume reductions in discharges;
 - The Monitoring and Technology Review Report;
 - The Consultative Group;
 - The Receiving Environment Monitoring Programme and Report;
 - Discharge factors (limits, timing and monitoring)
101. Ms Turner concluded that the consent should not be granted, but offered some suggestions for conditions changes should the application be approved.

Council Officer's Presentation

102. At the conclusion of the submitters' presentations, Mr Blakey on behalf of the Council officer's summarised their views on the application in light of the evidence and submissions presented during the hearing.
103. In summary, Mr Blakey maintained his view that:
- Subject to the measures proposed by Watercare (and as amended/supplemented by Council's technical specialists), the proposal will have minor adverse effects on the receiving environment.
 - The proposal is consistent with the New Zealand Coastal Policy Statement; the Auckland Council Regional Policy Statement; the Auckland Unitary Plan and Auckland Council Regional Plan: Coastal as it avoids significant impact on the receiving environment, while also allowing for the provision of quality, affordable wastewater services for the local community and the future growth of that community.
 - Watercare has appropriately recognised the relationship of Mana Whenua with the environment.
104. Other officers and specialists advised that they maintained the opinions expressed in their reports and provided favourable feedback on condition matters that had been at issue between them and the applicant's experts prior to the hearing.

Watercare's Reply

105. Mr McNamara presented a written right of reply which addressed the following matters:
- Level of potential adverse effects, particularly in relation to algal blooms, pathogens and emerging contaminants;
 - Consent duration;
 - The effectiveness of the proposed Monitoring and Technology Review Report (**MTRR**) and review conditions;
 - Issues raised by the Manukau Harbour Restoration Society (MHRS);
 - Issues raised by Ngati Tamaoho and Ngati Te Ata;
 - Comparison of treated wastewater quality consent limits with the limits for the Mangere Wastewater Treatment Plant; and
 - The wording of consent conditions.
106. Mr McNamara's reply also commented on a post-hearing memorandum filed by counsel for the MHRS and attached a further revised set of proposed conditions. References to conditions in this decision are to these conditions.

Principal issues in contention

107. After analysis of the application and evidence (including proposed mitigation measures), undertaking a site visit, reviewing the Council planning officer's recommendation report, reviewing the submissions and concluding the hearing process, the proposed activity raises a number of issues for consideration. The principal issues in contention that we propose to address specifically are:
- (a) Consideration of alternatives to the proposed discharge to coastal water;
 - (b) The potential adverse effects of the discharge, particularly in relation algal blooms, pathogens and emerging contaminants, and how those effects are to be managed under the relevant statutory documents, policies and plans;
 - (c) The effect of the discharge on mana whenua values;
 - (d) Consent duration and related conditions;
 - (e) Extended lapse period;
 - (f) The wording of other consent conditions.

Main findings on the principal issues in contention

108. Our main findings on the principal issues that were in contention are set out below.

Consideration of alternatives

109. Under s 105(1)(c) of the RMA, a consent authority must, when considering an application for a discharge or coastal permit, have regard to "*any possible alternative methods of discharge, including discharge into any other receiving environment.*" Where an activity is likely to result in "*any significant adverse effect on the environment*" Schedule 4, clause 6(1)(a) also requires that an applicant include in their application a "*description of any possible alternative locations or methods for undertaking the activity.*"
110. Watercare's application included an extensive description and consideration of alternatives, not because it considered that the effects of the proposed discharge would be significant, but because it was incumbent on it to provide a basis for the consent authority to address the requirements of section 105(1)(c). Furthermore, Watercare also intended to propose that the discharge permit (if granted) be subject to conditions under section 108(2)(e) that would require it to "*adopt the best practicable option to prevent or minimise any actual or likely adverse effect on the environment of the discharge...*" We also note in this regard (in agreement with Mr Serjeant⁶), that there is a strong directive provided by Policy 23 of the New Zealand Coastal Policy Statement requiring an adequate consideration of alternatives – a directive which arguably places greater emphasis on the BPO than the requirements of section 105. We note that Policies E1.3(17)(a) and F2.11.3(8) of the AUP(OP) also refer to the avoidance of wastewater discharges unless the BPO has been identified.
111. Alternative locations or methods may be a relevant matter under s104(1)(c) in the consideration of an application for resource consent. In *Meridian Energy Ltd v Central Otago District Council* [2010] NZRMA 477 (HC), the High Court found that if a consent authority concludes that a proposal may have significant adverse effects then the availability of alternatives is a relevant matter for consideration and it may require the applicant to provide a description of alternative locations. However, the applicant is not required to demonstrate that the proposal represents the best use of the subject resources, or is best in net benefit terms.
112. Watercare's assessment of alternatives led to it adopting the new Southwest Wastewater Scheme as the BPO. The assessment process through to adoption of the BPO was fully described in the evidence of Mr Bourne,⁷ Mr Bradley, Mr Hall and Mr Waiwai.⁸ Watercare submits that it has engaged in a thorough and detailed consideration of alternatives as a part of its alternatives assessment. Mr Blakey agrees and considers that the assessment of alternatives provided by

⁶ Evidence of David Serjeant, at [9.9] - [9.11].

⁷ Evidence of Mark Bourne, at [6.1] - [6.19], p. 8 - p. 14.

⁸ Evidence of Richard Waiwai, at [3.1], [5.12], [5.13] and p. 4, p. 8, p. 8, respectively.

Watercare "is detailed and has followed a robust methodology, and goes significantly beyond a simple 'description' of possible alternatives."⁹

113. Ms Turner in her evidence for MHRS was critical of Watercare's application for not showing how it would achieve inflow reduction, and not considering potable reuse.¹⁰ The Supplementary Evidence of Mr Hall, however, was that all alternatives to the proposed discharge including producing less wastewater, volume reductions and reuse (including potable reuse following treatment at an advanced water treatment plant) were thoroughly considered by Watercare before it lodged the application. Our review of the AEE materials confirms that evidence. We suspect that Ms Turner's concern is that such options were not employed as part of the BPO for the discharge eventually selected by Watercare. However, on our understanding of the law, provided we are satisfied that the BPO selection process has been robust and considered possible alternatives (which we find it has), and that the discharge will not give rise to significant adverse effects on the environment, then we have no basis to refuse consent because a different option or options might be available.
114. Legal submissions for MHRS also criticised Watercare for failing to consider industrial re-use of treated wastewater e.g. at the Glenbrook steel mill. However, that criticism is unfounded. Mr Bhamji's evidence described Watercare's meeting with New Zealand Steel and that company's written confirmation that the treated wastewater "would not be of a suitable quality for use at the NZ Steel industrial facility".¹¹
115. On the basis of the evidence of Mr Hall, Mr Bradley, Mr Pattle, and Mr Waiwai and Mr Auton we are satisfied that there has been more than an "adequate" consideration of alternatives to the proposed coastal wastewater discharge, in terms of the New Zealand Coastal Policy Statement policy 23(2)(b) and similar policies in Auckland planning documents.¹² We find that it has been a robust consideration, informed by an understanding of tangata whenua values and the effects of the discharge on them (as the policies require).
116. MHRS submitted that the word "avoid" used in the New Zealand Coastal Policy Statement Policy 23(2)(b) and equivalent regional policies mean "do not allow"; and on that basis argued that unless we are satisfied that the consideration of alternatives has been adequate, the application to discharge treated wastewater to the Waiuku Estuary cannot be granted.
117. As noted above, we have found that Watercare's consideration of alternatives has been more than "adequate", so the scenario suggested by MHRS under which a coastal discharge must be avoided does not arise. We also agree with Mr McNamara that there is no need to enter into the kind of analysis undertaken in *Environmental Defence Society Inc v New Zealand King Salmon* [2014] 1 NZLR

⁹ Officer's Report, Section 8.3.2, p 23.

¹⁰ Ibid, see in particular paragraphs 33-40 and 47.

¹¹ Bhamji evidence at paragraphs 7.20 to 722 and Appendices D and E.

¹² In particular, the Auckland Unitary Plan Operative in Part (AUPOP), policy E1.3(17) and policy F2.11.3(8); and Auckland Regional Policy Statement.

593 as to whether the consent authority has a choice over whether to implement Policy 23(2)(b) on account of the directive language used. In any event, Policy 23(2)(b) and Policy E1.3(17) in the AUP(OP) are not "avoid in all circumstances" provisions: rather the direction given is to avoid coastal discharges unless the criteria in the policy have been met.

118. The legal submissions for MHRS also referred us to "cases that address the extent of consideration that needs to be given to 'alternatives' in order for the requirements of the RMA to be met".¹³ However, most of the cases cited by Dr Hewison are cases concerning section 171 of the RMA, which relates to designations. On that basis they are not relevant to the present case: sections 171 and 174 expressly require the territorial authority and the Environment Court to have regard to "whether adequate consideration has been given to alternative sites, routes, or methods of undertaking the work" in certain circumstances, whereas there is no such requirement on us in determining this resource consent application under section 104.

Potential effects of the discharge

119. A key issue for our consideration at the hearing was the environmental effects of the treated wastewater discharge and the contaminants it could contain into the Manukau Harbour. There was substantial agreement amongst the experts who gave evidence that in comparison to the current discharges occurring from the WWTPs at Waiuku, Kingseat and Clarks Beach, the proposed combined and new discharge proposal would result in significant improvements to water quality in the receiving environment. This was due mostly to the proposed new treatment technology to be utilised, but also in part due to the proposed new discharge point location and discharge timing (on the out-going tide). Where there was disagreement as between Watercare and Council's reviewers on the one hand, and witnesses for the MHRS was in relation to effects in the future, especially as the population increases to its anticipated 30,000 residents in the Southwestern area.¹⁴
120. As described above, we heard detailed evidence on this issue from Watercare's witnesses as well as from the specialist reviewers engaged by the Council. We agree with Watercare that the ability to assess both the state of the existing environment (including the effects of the existing wastewater discharges from the Kingseat, Waiuku and Clarks Beach WWTPs) together with a robust understanding of the quantity, quality and method of the proposed discharge, provides a strong basis for the expert witnesses to give robust opinions on the potential adverse effects of the proposed discharge.
121. We consider that many of the issues and concerns raised by MHRS in its evidence presented to the hearing were adequately addressed in Dr James' evidence in chief.¹⁵ The only potential environmental effect that Dr James provided supplementary evidence on was the effect of phosphorus (P) on algal blooms, and

¹³ Submissions for MHRS, paragraph 44.

¹⁴ For example, see Legal Submissions on behalf of the MHRS, at para. 9, page 3.

¹⁵ Supplementary Evidence of Dr James, para 2, page 1.

the related issue of whether a discharge limit on P should be imposed. In his supplementary evidence Dr James remained of the opinion that nitrogen is the limiting nutrient in the receiving environment, as "[T]here is sufficient phosphorus available relative to nitrogen so that the addition of further phosphorus will not result in further algal blooms."¹⁶

122. In response to our questioning, Dr James confirmed his evidence in chief¹⁷ that the proposed discharge from the new Waiuku WWTP will result in no deterioration of water quality in the Southwest Manukau Harbour over the 35-year life of the consent (i.e. no deterioration even taking into account the increase in the connected population over this period). Further Dr James' evidence was that water quality and estuary health will improve in the Upper Waiuku Estuary, with the cessation of the existing Waiuku WWTP discharge. We accept that evidence.
123. Watercare proposes to design the new WWTP to achieve a 4-log reduction in viruses across the treatment process.¹⁸ In response to concerns raised by submitters (Mr Bell and Ms Cooper, and Mr Whyborn), Mr McBride's evidence was that the degree of removal of pathogenic viruses in the treated wastewater will minimize health risks associated with shellfish gathering, fishing and contact recreation such as swimming.¹⁹ We accept that evidence.
124. Despite these findings, which are based on Watercare's analysis of the existing environment and its understanding of the quality and quantity of its proposed discharge, we heard little evidence as to the future effects of the discharges. This is not a criticism: we consider that no experts could reliably predict the state of the receiving environment of the Waiuku Estuary and the wider Manukau Harbour beyond a horizon of possibly 10 to 15 years. This is because the quality of the water in these bodies is impacted upon by multiple diffuse discharges of contaminants from land-use activities (both rural and urban) over which Watercare has no control. Optimistically, we would like to predict an overall reduction in these contaminant loads; but we have no evidential basis for such optimism. In circumstances where the request is for a 35-year discharge permit, this lack of knowledge about the future environment is a factor that potentially warrants the exercise of a precautionary approach, particularly in relation to consent duration, frequency and intensity of monitoring, and scope of condition review opportunities. We return to these issues later in this decision.
125. At the hearing concern was also raised by submitters regarding potential adverse effects that could arise from contaminants of emerging concern (CECs) over the term of the discharge permit. Dr Stewart assessed the present level of CECs measured in the existing Waiuku WWTP discharge (which is treated to a lesser standard than the proposed discharge will be) to be at levels below applicable water quality guidelines, and considered the large dilutions expected from estuarine flushing at the proposed discharge site (CB12) "*will reduce the likelihood*

¹⁶ Supra at para 7, page 2.

¹⁷ Evidence of Dr James at para 116, page 30.

¹⁸ Evidence of Mr Morgan, para. 8.11 at page 8.

¹⁹ Evidence of Mr McBride, Section 9., page 13.

of effects in the receiving environment to negligible."²⁰ He also concluded that for CECs, the proposed technology "*will likely show overall reduction in CEC levels over the existing WWTP treatment, i.e. an improvement in the current situation.*"²¹ We heard no expert evidence to the contrary on this issue, and therefore accept Dr Stewart's assessments.

126. In this regard, we note that proposed condition 33 specifically addresses CECs by requiring an Emerging Contaminants Risk Assessment to be undertaken by a suitably qualified person by 30 September 2022, and every five years thereafter. The assessment must include a review of the current state of knowledge of CECs, whether additional samples are required for the assessment, measurement of the CECs (if determined to be necessary), and an assessment of risks to the environment from CECs in the treated wastewater. Each assessment has to be forwarded to the Council.
127. If an Emerging Contaminants Risk Assessment discloses a risk of a significant adverse environmental effect arising from CECs, the Council can, under condition 13(a), initiate a review of the consent conditions to deal with that risk. We consider this process is adequate to deal with the potential risk associated with CEC's in the discharge over the duration of the permit.
128. We acknowledge that a key factor in these effects assessments is the expected dilution and dispersal of the treated wastewater upon discharge. In response to our questions Mr Oldman expressed his confidence in the accuracy of the hydrodynamic modelling used to assess how the treated wastewater discharge will mix both within the Waiuku Estuary and the wider Manukau Harbour, advising us that he considered it to be 95% accurate in terms of flushing / exchange of water in the estuary and harbour. When asked whether there would be any cumulative contamination effects over the life of the consent, Mr Oldman predicted that with the high level of dilution occurring at CB12 through flushing on the outgoing tide, the contaminant effects will not be measurable. Mr Oldman expressed confidence with his stated low contaminant levels. We accept that evidence.
129. In terms of the overall quality of the wastewater discharge, Mr Bradley confirmed that the proposed technology for the new Waiuku WWTP, comprising Biological Nutrient Removal, Membrane Filtration and UV disinfection (BNR + MF + UV), is consistent with recent global trends using membrane technologies to produce the highest quality of discharge. It is also the same technology that Watercare proposes to utilise for the upgrade of its Pukekohe WWTP which discharges wastewater to the Waikato River.
130. In light of our findings on this matter and the evidence as to effects of the proposed discharge overall, it is appropriate to consider the specific statutory, policy and plan framework relevant to the management of treated wastewater discharges to coastal water and determine how the proposal 'performs'.

²⁰ Evidence of Dr Stewart, para. 4.19, page 7.

²¹ *Supra*, at para 4.21.

131. In terms of section 107 of the RMA, which applies specific statutory limitations on the grant of discharge permits to water, we are satisfied on the evidence that after reasonable mixing, the discharge will not give rise to any of the effects listed in section 107(1)(c) – (g) in the Manukau Harbour.
132. In terms of the New Zealand Coastal Policy Statement, we adopt the detailed analysis undertaken by Mr Blakey in his report. In particular, we agree that the discharge proposal will achieve Objective 1 because, based on its water quality effects, it will safeguard the integrity, functioning and resilience of the coastal environment, and its ecosystems, by improving the quality of the coastal waters within the Waiuku Estuary and Manukau Harbour.
133. In terms of key NZCPS Policy 23, we find that:
- The proposal has had regard to the particular sensitivities of this receiving environment. It also details the nature of contaminants to be discharged, the rate of dilution and extent of the mixing zone. The assessment has confirmed the capacity of the receiving environment to assimilate the wastewater, such that it avoids resulting in any significant adverse effects on ecosystems and habitats, and requires only a small mixing zone due to the speed of ebb currents in the Estuary.
 - The proposal involves the discharge of treated wastewater (thus satisfying Policy 23(2)(a) above), while the treatment and disposal method has been determined on the basis of a detailed analysis of alternative methods, sites and routes/locations for undertaking the discharge. Based on the details of consultation undertaken, we also find that the proposal has been developed, and amended, with reference to an understanding of tangata whenua values and potential effects.
134. We consider that Policy 3(1) directs us to adopt a precautionary approach, as foreshadowed in our paragraph 124 above. This is because the application requests a permit to discharge wastewater into a coastal receiving environment for 35 years, in circumstances where it is impossible to predict now the capacity of that environment to assimilate the discharge, it being subject to multiple other discharges that may or may not impact on that capacity. Our view is that this caution is to be employed in the setting of the final consent duration and related monitoring and review conditions.
135. Mr Blakey's report provides a detailed analysis of AUP(OP) Regional Policy Statement provisions (Chapter B). We agree with his analysis and conclusions of consistency. A key directive of relevance to the application is found in Chapter B7 which generally seeks to maintain and protect natural resources, including within the coastal environment. In this regard we note that the Waiuku Estuary is classified in Figure B7.4.2.1 as being a "Degraded 1" area, with the Manukau Harbour being "Degraded 2". Although the objectives and policies of this chapter do not appear to apply any differentiation to the management of degraded areas, in respect of wastewater, they seek to manage the adverse effects of wastewater discharges to coastal water by (inter alia) "*adopting the best practicable option for minimising the adverse effects of discharges from wastewater treatment plants*"

(Policy B7.4.2(10)(c)). The evidence presented to us confirms that the proposed discharge will generate no more than minor adverse effects on the environment, with the Mott MacDonald review commenting that:

The proposed activity will improve wastewater quality in the short term but the long-term N load will increase which may affect coastal water quality. A catchment wide approach to managing N is required in order to improve coastal water quality as suggested by the AUP Policy B7.4.2 (1).

136. In this regard, we consider that the use of regular monitoring and reporting as proposed by Watercare is considered appropriate to ensure that any unanticipated effects are addressed at an early stage.
137. As the proposal is considered to represent the BPO for minimising the adverse effects of discharges from the existing and future population of the area to be serviced by the proposed WWTP to the environment, we find that it is consistent with this policy.
138. Turning finally to the regional plan provisions, we find that Chapters E1 and F2.11 of the AUP(OP) are the most applicable to the discharge.
139. In terms of E1 we consider that the proposal can be undertaken in a manner which avoids significant effects on water quality values. Furthermore:

- (a) Watercare has considered other alternatives, in terms of treatment and disposal options. Watercare's assessment concluded that the current proposal represents the BPO, given both the scale of effects anticipated for each alternative considered, their efficacy and cost. Watercare has also demonstrated that the proposal's adverse effects can be adequately mitigated and remedied. Council's specialist reviewers agree and comment that:

Alternative land-based disposal options were not considered practicable by Watercare and we consider that land disposal options in this area are limited. The proposed discharge quality is appropriate considering it utilises the best available technology.

- (b) The AEE also demonstrates that Watercare has engaged with both Mana Whenua and the wider community as part of the application-preparation process, and through its Kaitiaki Forum.
- (c) Watercare has sought to avoid effects on the Waiuku Estuary and Manukau Harbour through the adoption of state of the art treatment processes, which will maintain, and enhance the ecological quality of these waters and safeguard their use for recreational and shellfish-gathering purposes.

140. In terms of F2.11, we find that the volume and quality of the discharges proposed in achieve the relevant objectives and policies in this section of the AUP(OP) because:

- (a) The proposal will lead to improvement in water quality due to the replacement of existing WWTP infrastructure. It will thus provide for the maintenance of public health and safety by minimising the discharge of, and adverse effects of, contaminants to the coastal waters of the Waiuku Estuary. The proposed conditions (discussed below) also require continual monitoring and the review of and implementation of technical improvements over time.
- (b) The application provides a detailed analysis and assessment of alternatives to demonstrate the proposal represents the BPO, and includes details of consultation with tangata whenua and the local community in the assessment of alternatives.
- (c) The evidence is that the receiving environment is able to assimilate the discharged contaminants and water after reasonable mixing and within a reasonably confined area. While the area is noted as a Degraded/Susceptible Area (refer Map 6 of Attachment 5), the improvements to the quality of wastewater discharges in the early/intermediate stages of the area's growth, will assist to improve and mitigate the overall water quality of this environment.
- (d) The proposal will not give rise to the type of effects set out in Policy F11.2.3(2)(g), which is also relevant to a consideration in terms of section 107 of the RMA (as discussed above).
- (e) Appropriate consultation has been undertaken with Mana Whenua and the affected community, and the application demonstrates that the location and extent of the mixing zone will have no significant adverse effect on the existing or reasonably foreseeable use of the receiving waters for recreation or shellfish gathering.

141. Based on this effects and policy analysis we are satisfied that the proposed discharge of treated wastewater meets the relevant statutory test, will have only minor effects on the environment and achieves the key national and regional policy directives, and is consistent with the relevant regional objective and policy framework. Accordingly, we agree with the applicant that there is little if any effects or policy basis for declining consent. The level of adverse effects, the positive effects of the proposal, and its consistency with key planning documents requiring consideration under section 104(1)(b) of the RMA, all strongly support the granting of consent.

142. The key question therefore is whether there is any reason why consent should be granted for less than the duration sought by Watercare (and recommended by Council reporting officers i.e. 35-years). A secondary question is what suite of conditions will best ensure active monitoring, management and maintenance of the

BPO in light of technological changes in treatment processes or in the receiving environment throughout the term of the consent. We return to these questions later in this decision.

Mana whenua values

143. Both Ngati Tamaoho and Ngati Te Ata, in their presentations to the hearing, were complimentary of the scope of Watercare's alternatives assessment, its engagement with them through that process, and the provision of information in relation to the different alternatives.
144. At the hearing Mr Bourne acknowledged that the use of multi criteria analysis contrasted with the holistic approach to assessing options preferred by mana whenua, a point also mentioned by Mr Waiwai in his evidence.²² Despite that, Watercare's commitment to engagement with tangata whenua in relation to the proposed discharge, both before lodgement and on an ongoing basis through Watercare's relationship agreements with each of these entities is clear.

Ngati Tamaoho

145. Ngati Tamaoho's preference is that the consent not be granted. We acknowledge and understand the basis for that request. However, the application cannot be determined on such a simple basis, as sincere as it may be. Moreover, not granting the application would have consequences of a potentially more deleterious nature (i.e., continuation of the existing WWTP discharges). Nor would refusing consent address the network requirement to safely treat and dispose of wastewater from the rapidly growing population in the Southwest Growth Area. We are satisfied that Watercare's options analysis shows that the proposal is the BPO to meet this growth.
146. Ngati Tamaoho made a number of secondary recommendations to us, in the event that we were considering a grant of consent. We have 'taken on board' many of these recommendations (i.e., continued exploration of land based discharge options over the life of the consent; shorter consent duration; monitoring of CECs; duration of monitoring) in our analysis and final setting of conditions, as far as practicable and lawfully possible.
147. Ngati Tamaoho also recommended that "Watercare apply the wording "no", "less than minor" or "de minimus" as negotiated within the Plan Change 28 as part of this consent". We understand that this is a request that Watercare commit to the discharge at CB12 having this level of effect on the Whatapaka Creek.
148. In reply, Mr McNamara provided us background on this issue. He noted that as a result of the Plan Change 28 process a policy that addressed the effects of wastewater discharges to the Whatapaka Creek was included and that this policy was carried through, largely unchanged, into the AUP-OP provisions for the Kingseat Precinct as follows:

²² Waiwai evidence at paragraph 7.2.

Subdivision and development should avoid, remedy or mitigate any adverse effects of urban development in the Kingseat precinct by:

- b) establishing ...approved wastewater infrastructure, in an appropriate and timely manner, cognisant of:
- (v) the need to ensure that the discharge of treated wastewater from the Kingseat Precinct area occurs in an environmentally and culturally sensitive way and which is characterised by:
 - One public wastewater treatment plant (membrane bioreactor or similar) which treats wastewater to a high standard;
 - Avoidance of any discharge of treated wastewater directly, or by overland flow, into the Mana Whenua Management Precinct associated with the Whatapaka Creek;
 - Any direct discharge of treated wastewater from the Kingseat Precinct outside the Mana Whenua Management Precinct associated with the Whatapaka Creek having no more than a de minimis adverse ecological effect on the Mana Whenua Management Precinct;
 - Ngati Tamaoho being notified of any application to discharge wastewater collected from the Kingseat Precinct.

149. Mr McNamara reminded us that the Southwest Wastewater Scheme will result in the removal of the two treated wastewater discharges at Kingseat, consistent with the above policy and that in relation to the third bullet point above, Dr James confirmed that the low tidal velocity along Clarks Beach to the northeast, compared with that in the Waiuku Channel flowing to the north, means that the effects of the discharge are unlikely to be noticed at the eastern end of Clarks Beach where Whatapaka Creek is located. Dr James therefore considered (paragraph 116) that there will be no further deterioration of the water quality in the Southwest Manukau Harbour.

150. On that basis we accept Mr McNamara's submission that any adverse effects of the treated wastewater discharge on Whatapaka Creek will be less than minor.

151. Finally, it was recommended that Watercare and Ngati Tamaoho continue full engagement to reach agreement. Although requiring this outcome is not something we have power to do, we record Watercare's response to the effect that it will continue to engage with Ngati Tamaoho under the relationship agreement they have and through the Consultative Group (condition 6 of the consent).

Ngati Te Ata

152. At the hearing Mr Roimata Minhinnick spoke on behalf of Ngati Te Ata to the cultural impact assessment undertaken for the project. A key theme of Mr Minhinnick's presentation was that removal of the existing WWTP discharge from the Upper Waiuku Estuary is of "immeasurable cultural value" to Ngati Te Ata. The "conclusions" section of Ngati Te Ata's cultural impact assessment describes this in more detail as follows:

- The proposed discharge at Clarks Beach will improve the Waiuku estuary as it will replace the existing discharge at Waiuku which lies in close proximity to Tahuna Marae and traditional fisheries.
- There would be significant cultural benefits to Ngati Te Ata and equivalent value to the mauri and wairua of Te Awa o Waiuku in decommissioning discharge from the Waiuku Treatment Plant.

153. Other conclusions in the cultural impact assessment include:

- We recommend moving the discharge pipe out further into the channel (still too close to the shore) – given the harbour tidal flows.
- Ngati Te Ata participating in the monitoring will provide assurances in terms of water quality control.
- That Ngati Te Ata monitoring continues for the life of the consent and as agreed, the renewal of the consent occurring after the 5th, 10th, 20th and 30th anniversaries.
- With the aforementioned negotiated conditions in mind including the recognition and provision to the principles and core values identified at point 2.1 and 2.2 of this report, Ngati Te Ata provide its full support to the proposed advanced Clarks Beach Discharge Consent application and look forward to working closely together with Watercare.

154. In relation to the recommendation as to the re-location of the outfall and diffuser structure, we are cognisant of the evidence of Mr Oldman (paragraphs 4.5 and 7.1 to 7.12), where he discusses the alternative discharge sites in the Manukau Harbour and Waiuku Channel (including CB12) that were considered, in addition to a Tasman Sea discharge. He stated that other sites in the Southwest Manukau Harbour and Waiuku Channel that were assessed would provide either less initial dilution or may result in higher contaminant concentrations occurring at inter-tidal sites in and around Clarks Beach and Karaka Point than CB12 (paragraph 7.3). On this basis we find that CB12 is the most appropriate location for this structure.

155. The other three bullet points quoted above from the Ngati Te Ata cultural impact assessment are all interlinked. They also inform the response by Ngati Te Ata to the question put to Mr Minhinnick at the hearing as to whether Ngati Te Ata was comfortable with a 35-year term, on the basis that the review and MTRR conditions were sufficient. Mr Minhinnick replied that he would like the opportunity to consider the matter, and was given the opportunity to advise the position taken by Ngati Te Ata through Watercare's closing submissions.

156. In his reply, Mr McNamara submits that the primary concern of Ngati Te Ata in relation to consent duration is that the consent conditions recognise the role of Ngati Te Ata as kaitiaki, experts in relation to water, and to use their own matauranga to determine and advise Watercare at a strategic, governance level as well as the operational, hands-on level. A particular concern in this regard is the possibility of adverse impacts of the discharge on kai moana, and for that reason Ngati Te Ata have stated that they would like there to be a review of the consent every third year following the 10th year.

157. We set out below the key monitoring, reporting and review dates under the consent conditions proposed by Watercare in reply, as understanding them over the potential 35-year duration sought is relevant to considering not only Ngati Te Ata's

concerns, but also to inform our own determinations about these matters. The ongoing “review” process proposed under the conditions is as follows:

- By 30 September 2022 – Watercare to provide Emerging Contaminants Risk Assessment to Auckland Council and Consultative Group.
- 2 years before commencement of discharge (say, early 2023) – commencement of Receiving Environment Monitoring Programme (**REMP**) including monitoring of sites for coastal water quality, microbial contaminants, benthic ecology and shellfish (scallops, cockles and oysters).
- First 3 years of the REMP (say early 2023 to early 2026) Watercare to provide an annual summary data report, including an interpretation of the results of the REMP, to Auckland Council.
- 5 years after commencement of consents (say, late 2022, assuming no appeals against the granting of consent) – provision of first MTRR and first opportunity to review consent conditions.
- 10 years after commencement of consents (say, late 2027) – provision of second MTRR and second opportunity for a s128 review of consent conditions under condition 13.
- 15 years after commencement of consents (say, late 2032) – third opportunity for a s128 review of consent conditions under condition 13.
- 20 years after commencement of consents (say, late 2037) – provision of third MTRR and fourth opportunity to review consent conditions.
- 25 years after commencement of consents (say, late 2042) – fifth opportunity to review consent conditions.
- 30 years after commencement of consents (say, late 2047) – provision of fourth MTRR and sixth opportunity to review consent conditions.
- 35-years after commencement of consents (say, late 2052) – consents expire.

158. Attachment A to Mr McNamara’s submissions in reply was an email received from Ngati Te Ata confirming that "Ngati Te Ata is happy with and consents to the suggested Watercare Consent Conditions – Final Reply Version attached." Mr McNamara advises further that the submitted version of the conditions attached to Mr Minhinnick's email is the same version attached to his reply submissions. We are grateful for this indication.

159. We accept Mr McNamara’s submission that the proposed monitoring and review requirements appear to achieve a level of on-going monitoring and verification of environmental effects that are satisfactory to Ngati Te Ata. We now turn to consider whether they are appropriate to form part of the consent sought by Watercare, appreciating the RMA issues at stake.

Consent duration and associated conditions

160. Watercare has sought a 35-year term for the consents being sought. The Council's section 42A report supported the 35-year term, and after hearing from submitters the officers' summary statement (presented on Day 3, 13 October 2017) continued to support that 35-year term.

161. In reply, Mr McNamara reminded us of the factors relevant to duration set out in *PVL Proteins*²³ which were addressed in Watercare's evidence. A decision as to the appropriate term:

- is to be made for the purpose of the RMA;²⁴
- should have regard to actual and potential effects and relevant planning instruments, the nature of the discharge and sensitivity of the receiving environment to adverse effects,²⁵ the applicant's reasons,²⁶ and alternative methods of discharge including to another receiving environment;²⁷ and
- should take into account that conditions may be imposed requiring adoption of the BPO, the supply of information over the life of consent, observance of discharge standards, and reserving the power to review conditions.

162. In that case the Court also noted that:

- uncertainty for an applicant of a short term, and the need to protect its investment indicates a longer term, as does the point that "review of conditions may be more effective than a shorter term to ensure conditions do not become outdated, irrelevant or inadequate";
- Expected future change in the vicinity, or uncertainty about the effectiveness of conditions to protect the environment, may indicate a shorter term.

163. Mr Bradley's evidence to us was that a 35-year term is not unusual for wastewater treatment plants discharging to a coastal environment. We note that a 35-year consent has recently been granted to Watercare for a discharge from the Pukekohe WWTP to a tributary of the Waikato River.

164. During the hearing opposition to a 35-year term focused on:

- whether Watercare would be able to comply with the proposed conditions of consent;
- alleged uncertainty as to adverse effects, in the absence of a consent limit for total phosphorus (TP) or dissolved reactive phosphorus (DRP); and

²³ *PVL Proteins Ltd v Auckland Regional Council*, A61/2001 at paragraphs 27 – 34.

²⁴ See the evidence of Mr Sergeant.

²⁵ See the evidence of Dr James and Mr Sergeant in particular.

²⁶ See the evidence of Mr Bourne.

²⁷ See the evidence of Mr Hall.

- the level of monitoring over the duration of the consent.

165. In reply, Mr McNamara responded to each of these points.

166. MHRS expressed doubt at the hearing as to whether Watercare would comply with the proposed conditions of consent, based on its perceived experience in connection with the Mangere WWTP. In response, Mr McNamara submits that there is no uncertainty regarding consent compliance.

167. First, there was no evidence presented to us that Watercare is incapable of complying with the proposed conditions of consent. To the contrary, the evidence of Mr Morgan²⁸ regarding past performance of Watercare's three existing WWTPs (at Clarks Beach, Kingseat and Waiuku) was that no complaints had been received regarding the discharges from those plants. In our view, the requirement for an Operations and Management Plan (to be submitted to the Council for certification)²⁹ provides the appropriate mechanism to ensure compliance with the conditions of consent.

168. Second, it is also established case law (see *Barry v Auckland City Council*³⁰ and *88 The Strand v Auckland City Council*³¹) that compliance with consent conditions must be assumed. The High Court stated in *88 The Strand* that:³²

a consent authority, when it imposes conditions, is entitled to assume that the applicant and its successors will act legally and adhere to rules and conditions.

169. In *Medical Officer of Health v Canterbury Regional Council* [1995] NZRMA 49, the integrity of the conditions review process under sections 128 to 132 of the RMA was questioned by a witness for the Medical Officer of Health, who suggested that it was preferable instead to limit the air discharge consent sought to a 5-year term. The Planning Tribunal, after describing the review conditions, concluded:

Construing the review provisions in this way we are satisfied that they are more than adequate to meet the concerns expressed by the Medical Officer of Health in this appeal. Indeed they provide a more rigorous and effective mechanism for ensuring that the applicant company does not adversely affect the air quality of the area surrounding its factory and provides a more efficacious procedure than the somewhat blunt instrument suggested by the Medical Officer of Health, that the term of this resource consent be limited to five years to enable these matters to be looked at afresh after that time.

170. The Tribunal also responded to the witnesses' lack of confidence in the review process as follows:

We can see no grounds for the appellant's pessimism concerning the integrity of this process. We must, and do assume that the Regional Council will do its duty according to law in enforcing and monitoring these discharges.

²⁸ Evidence of Mr Morgan, at para. 7.4, page 7.

²⁹ Conditions 30 – 32 attached.

³⁰ *Barry v Auckland City Council* [1975] 2 NZLR 646 (CA).

³¹ *88 The Strand v Auckland City Council* [2002] NZRMA 475 (HC).

³² *Supra* at [19].

171. On the basis of these factors, we find that there are no grounds for imposing a short term of consent simply because MHRS doubts whether Watercare will comply with the proposed conditions of consent (or whether Council will enforce compliance with those conditions or perform its review function responsibly).
172. Ms Allen in her evidence on behalf of MHRS stated that with no limit for TP in the proposed consent conditions, there is "no certainty, or even indication at this point, about what is an acceptable mass load of Phosphorus for the discharge".³³ Earlier in her evidence she was critical of there being no modelling in the AEE for P in the Manukau Harbour to determine the likelihood of effects of further P being discharged from the proposed new treatment plant.³⁴
173. In reply, Mr McNamara submits that there is no uncertainty as to adverse effects, in the absence of phosphorus limits. He notes that Dr James' supplementary evidence explains that the reason the main focus for Watercare's modelling and assessment had been on nitrogen rather than phosphorus, is because nitrogen is considered to be the limiting nutrient in the Waiuku Estuary and Manukau Harbour. We note that Ms Allen did not dispute that assumption in her evidence to us. Dr James says:³⁵

While concentrations may not be that dissimilar to what we see now from the WWTPs, phosphorus loads will increase in future. However it would be some time before the highest loads will be reached. Even at these loads nitrogen will still be the main nutrient of concern unless other nitrogen inputs are significantly reduced in the catchment. The reviews under condition 12 are to be undertaken at 5, 10, 20 and 30 years and now includes reviewing nitrogen and phosphorus in the receiving environment and what might be limiting algal growth. This provides a mechanism for reviewing the need for a phosphorus standard, if total nitrogen limits from the catchment were to significantly reduce.

174. In summary, Watercare's case is that there is no present or short-term need for a limit on P in the consent conditions, and the absence of such a limit does not create uncertainty as to the environmental effects of the proposed discharge. It further says that its proposed reporting and review condition proposals will provide a robust mechanism to identify and address the effects of the proposed discharge on total phosphorus concentrations in the receiving environment, and the relationship of total nitrogen and total phosphorus to limiting algal growth (Monitoring and Technology Review Report, Condition 12(d)).
175. We agree that if there was a significant adverse effect on the environment arising from P in the proposed WWTP discharge, the Council could review consent conditions under proposed condition 13(a) of the consent and if necessary introduce a P standard into condition 15. The Council therefore has the requisite tools to address what is at present merely a potential adverse effect in relation to P, should that effect arise. We therefore find that there is no reason to limit the duration of the consent in response to that potential effect, as MHRS appears to be suggesting.

³³ Evidence of Gemma Allen at paragraph 26.

³⁴ Ibid, paragraph 14.

³⁵ Supplementary evidence of Dr Martin James at paragraph 11.

176. MHRS also questioned whether monitoring would be undertaken throughout the term of the consent. Ms Allen expressed particular concern with condition 30, which referred to the consent holder being able to apply to cease the REMP described in condition 27.
177. This matter was addressed in Dr James' supplementary evidence, in which he confirmed that there is no intention to "cease all monitoring", and recommended that this wording be removed from the conditions so as to reflect that while aspects of the monitoring may cease or change, a monitoring plan would run for the full term of the consent.³⁶
178. Proposed Condition 26 sets out what must be included in a REMP. It sets out an initial number of monitoring sites for coastal water quality, microbial contaminants, benthic ecology and shellfish (scallops, cockles and oysters). It also requires the REMP to address the number of samples, spacing of sample stations in relation to the position of the outfall, frequency of sampling, sampling methodology and reporting. Condition 27 then requires the REMP described in condition 26 to be undertaken for at least two years before, and two years after, commencement of the discharge of treated wastewater to the Waiuku Channel. As Dr James explained in his supplementary evidence: "*the 4 years of spatial and seasonal data will be used to identify what sites best represent the environment and biota and the frequency of sampling that will be needed long-term*".
179. Condition 27 also requires Watercare to provide a summary data report, including an interpretation of the results of the REMP, to the Auckland Council on an annual basis for the first three years of the REMP. We understand that this has been agreed with Auckland Council reporting officers following discussions post hearing.
180. After two years of treated wastewater discharges to the Waiuku Channel, under Condition 28 Watercare must engage a suitably qualified person to prepare a Receiving Environment Monitoring Report which is submitted to the Council under Condition 28. That report must contain a recommendation to maintain, increase or reduce as appropriate the frequency, location and/or number of sites to be monitored. After the first Receiving Environment Monitoring Report, further reports must be prepared every five years for the remainder of the consent. This report, with other reports, will be provided to the Consultative Group for comment.
181. Mr McNamara submits that Watercare fully accepts that long term monitoring plays a central role in ensuring, and providing confidence for the Council and stakeholders that, any adverse environmental effects of the proposed discharge will be negligible. He says that in the unlikely event that a report did show any concerning trends in water quality, shellfish health or abundance, or benthic ecology, the Council has the ability to review the consent conditions to deal with any significant adverse effects under Condition 13(a), or to alter the monitoring programme under Condition 13(c).

³⁶ Supplementary Evidence of Dr James, para. 12, at page 3.

182. Under revised Condition 29 the Council officer will be required to certify that the Receiving Environment Monitoring Report meets the requirements of Condition 28, and that the recommendations under Condition 28(d) - i.e. to maintain, increase or reduce as appropriate the frequency, location and/or number of sites to be monitored - accords with the purpose of the REMP as now stated in revised Condition 26(b). That purpose is to detect and delineate any obvious temporal trends in Manukau Harbour water quality, shellfish quality and marine ecology related to the discharge of wastewater from the WWTP. We accept Mr McNamara's submission that proposed revised Condition 29 is consistent with the accepted approach under case law relating to officer certification under consent conditions.³⁷
183. In summary, we accept that Watercare's condition proposals will ensure that a very detailed level of information will be provided through monitoring and reporting throughout the life of the consent and this is relevant to our determination as to the appropriate term of consent. A further relevant factor for us in this regard is the effectiveness of proposed conditions in the consent regarding the MTRR and review of conditions under section 128. The underlying issue was expressed by one of the Commissioners as whether "there are sufficient teeth in the conditions to require adoption of the BPO over the life of the consent". The effectiveness of the review conditions in this case is a key matter relevant to the issue of duration, and whether Watercare's request for a 35-year consent can be granted.
184. Several of the independent expert witnesses called by Watercare addressed this particular issue and referred to their personal experience with the implementation of similar review mechanisms in other discharge consents.³⁸
185. We accept, as a matter of law, that a consent authority must exercise its conditions review power responsibly³⁹, and that if there is a significant adverse effect on the environment which was not foreseen at the time the application was considered it will exercise those powers to review the conditions of consent.
186. However, our broader concern was whether the review conditions would be effective in the absence of a significant adverse effect, and could be engaged to require Watercare to adopt a different BPO, or modify its current BPO, in the event new and better treatment technology became viable during the life of the consent, even where the WWTP discharge was within consented limits.
187. Mr McNamara submits that the purposes for which the proposed conditions can be reviewed under condition 13 are independent, and Auckland Council would accordingly be entitled to review conditions of consent under condition 13(b), quoted below, even in the absence of a significant adverse environmental effect:

- (b) To consider developments in technology and management practices that would enable practical reductions in the discharge of contaminants; ~~and/or~~

³⁷ *Pine Tree Park Ltd v North Shore CC* [1996] NZRMA 401 (HC) following *Turner v Allison* [1971] NZLR 833 (CA).

³⁸ Bradley evidence para 10.8; Hall supplementary evidence, paragraphs 4.2 and 4.3.

³⁹ *Medical Officer of Health v Canterbury Regional Council* [1995] NZRMA 49

188. He confirms that the suggested change from "and/or" to simply "or" between paragraphs (a), (b) and (c) of condition 13 clarifies that each review ground is a stand-alone ground.
189. In questioning, Mr Hook, the independent planning witness called by the Kingseat Group, confirmed his understanding that there is an important link between the MTRR condition (condition 12) and the review ground in condition 13(b). Condition 13(b) allows conditions of consent to be reviewed based on information regarding the BPO which Auckland Council has received from Watercare under the MTRR required on the proposed 5th, 10th, 20th and 30th anniversaries of the consents commencing.
190. Mr McNamara notes that the MTRR needs to be provided to the Consultative Group for comment, and certified (for compliance with conditions 11 and 12) by the Council's Team Leader - Southern Monitoring and submits that the provision of the report to the Consultative Group is important because it allows stakeholders in that group to "hold Watercare to account", and raise the possibility of a section 128 review of conditions with Auckland Council, should Watercare decide that it does not intend to adopt any newly identified BPO or incorporate beneficial reuse technologies that could minimize the potential and actual adverse effects of the treated WWTP discharge. The Consultative Group is therefore empowered, through the proposed condition, he says to actively monitor whether Watercare is adopting the BPO in relation to its WWTP discharge.
191. Provision of the MTRR to the Consultative Group under Condition 7(c) may also, we accept, create pressure on Auckland Council to exercise its review power, but ultimately it remains the Council's decision whether or not to initiate a review of conditions. Under proposed Condition 13(b) the Council has a discretion to review the conditions. Such a review could be in response to developments in technology and management practices that would enable reductions in the discharge of contaminants, even in the absence of a significant adverse environmental effect. Nevertheless, the adverse effects of the existing discharge would in our view be relevant to the Council's exercise of its discretion to undertake a review of conditions, if the costs of undertaking a review (and more significantly, cost to Watercare of implementing measures required to comply with more stringent consent conditions arrived at through the review process) significantly outweighed the environmental benefits that could be derived through this process.
192. Determining the appropriate duration of this consent has been the most difficult issue faced by the Commissioners in their deliberations. In the absence of detailed monitoring and review conditions, we would not have agreed to Watercare's request for a 35 year term, principally because there are a number of environmental variables that over the next 35 years may impact adversely on the capacity of the Waiuku Estuary and Manukau Harbour to assimilate the discharge with only minor effects. We refer here to variables such as possible changes in land use in their contributing catchments and consequently the quality and quantity of contaminants that may end up in the harbour and change the receiving environment. If this change is to the worse, the effects of Watercare's discharge

may become more than minor, despite its continued observance of limits imposed at the commencement of the permit.

193. Similarly, the quantity and quality of CECs in wastewater inflows (and thus, potentially, wastewater discharges) are difficult to know with absolute certainty at this point in time.
194. However, we have been persuaded that the comprehensive monitoring and review proposals are adequate to manage these future potential risks over the term of a 35-year permit, albeit with some minor amendments. We are confident that neither Watercare (nor its controlling body – Auckland Council) wish to see the quality of the water in the Manukau Harbour decline. The overall intent of the current proposal is indicative of this. We are satisfied therefore that in the event that catchment wide contaminant inputs into the Manukau Harbour are unable to be controlled over the term of the permit at current levels (or better), or that CECs present a greater risks than previously predicted, then these agencies will take all practicable steps to improve the discharges they can control to ensure the health and mauri of the Manukau Harbour is sustained.
195. The minor amendments to the conditions that we have determined to make are two-fold. First, we have decided to increase the frequency of the MTTR process. Second, we have amended the general review condition so that a review can be undertaken at the time Watercare applies to renew its discharge permit for the Mangere WWTP in 2032. We consider that an ability to look at the combined mass inputs of contaminants from two of the most significant point-source discharges into the Harbour at the same time, will provide a valuable opportunity to take stock of the overall health of the Manukau Harbour at that time and determine the most appropriate discharge limits for these permits together.
196. We have incorporated these condition changes directly into the final conditions imposed on the consent.

Extended Lapse Period

197. In his section 42A report for the hearing, Mr Blakey considered that a five-year lapse period under s125 of the RMA should apply to the consents noting:⁴⁰

Watercare has not, through the application documents, sought any amendment to this standard lapse date provision, other than by reference to an 'extended lapse date' of ten years in the preface to its draft suggested consent conditions... An extended lapse date of such a duration would give increased flexibility to Watercare, including with respect to the need to obtain further consents for the upgrading of the Waiuku WWTP and associated infrastructure. However, in view of the imminent expiry of discharge consents for the existing WWTPs (as noted at section 3.3.3 of the AEE), and the absence of specific comment around the expecting timing to give effect to the consent (including in relation to associated infrastructure and upgrades), it is not yet clear that an extended lapse is appropriate or warranted.

198. At the hearing Mr McNamara clarified that the application as lodged sought a 10-year lapse period, but that after careful reconsideration Watercare now sought an eight-year lapse period. Eight years was considered to be more appropriate than

⁴⁰ Officer's Report, Section 11.6, p. 73.

10 years (or the RMA "default" position of five years) given the expected growth in the area and timeframe required to consent additional activities (for example, the transmission pipework under Taihiki Estuary)⁴¹ and design, construct and commission the entire new Southwest Wastewater Scheme.⁴²

199. After hearing all of the submissions and evidence at the hearing, we understand that Mr Blakey has indicated that he now accepts that an 8-year lapse period is appropriate. We agree, for the reasons outlined in detail in Mr McNamara's reply submissions.

Remaining condition issues

200. We understand that conditions included with Watercare's reply were provided to the Council officers prior to their final presentation to us. Mr McNamara advised that a further amendment to revised Condition 27 was sought by Council requiring the consent holder to provide a summary data report (consisting of the raw data collected and a summary interpretation of the results) on an annual basis for the first three years after implementing receiving environment monitoring. This amendment has been included in the revised conditions.
201. Mr McNamara submits that the conditions relating to the Consultative Group are now more robust (e.g. the inclusion of requirements to give public notice of the group's establishment inviting participation by interested persons, and to provide the Operations and Management Plan to the group).
202. There are three minor areas where Watercare and Auckland Council have not reached full agreement in the conditions.
203. Condition 12(d) –Watercare wishes to amend Condition 12(d) of the MTRR to focus more on phosphorus than nitrogen, appreciating the issue of uncertainty in relation to potential effect of phosphorous. Auckland Council prefers to keep the words 'total nitrogen and' in the condition.
204. We prefer to take a precautionary approach and leave both total nitrogen and total phosphorous in this condition. Watercare can apply to have the condition amended in the usual way if this aspect of it is shown to be unnecessary in the future.
205. Condition 20 – Watercare proposes to amend Condition 20 (heavy metal monitoring) so that after the monitoring being undertaken on a three-monthly basis for two years, the frequency will be reduced to annual monitoring. Auckland Council has requested that the frequency is reduced to 6-monthly after two years on the basis to detect any seasonal changes in heavy metal concentrations.
206. Mr McNamara submits that 6-monthly sampling is not required given the characteristics of the contributing catchment, with only minor commercial/trade waste inputs into the scheme. If there were some major industrial contributors

⁴¹ Evidence of David Sergeant, Table 1, at [6.1].

⁴² Evidence of Mark Bourne, at [8.7], p. 17.

which could influence heavy metal concentrations on a seasonal basis, then Watercare would be agreeable to 6-monthly monitoring. However, it says this is not the case for the Waiuku WWTP catchment and no significant variability in heavy metal concentrations are expected on a seasonal basis. Therefore, it is Watercare's view that annual monitoring after two years is more appropriate.

207. We prefer, again, to take a precautionary approach here and adopt the Council's suggestion. Watercare can apply to have the condition amended in the usual way if this aspect of it is shown to be unnecessary in the future.
208. Condition 28 – Auckland Council seeks that the Receiving Environment Monitoring Report required in this condition be prepared and provided on an annual basis after the initial baseline monitoring and data reporting required by condition 27 is completed. Watercare submits that this frequency is overly onerous and that any significant trends would not be able to be detected on an annual basis and that a five-yearly reporting frequency is appropriate given the data collected over a five-year period would be comprehensive (per Condition 26) and allow the critical assessment of any significant trends in the results of the receiving environment monitoring (as required by condition 28(b)).
209. We agree with Watercare's concern that data reporting after the establishment of the baseline data is unlikely to demonstrate any significant trends if reported on an annual basis. Under the REMP, data will be collected and any significant aberrations in this will become evident and can be acted upon. Failing such aberrations being detected, we consider that trend reporting every 5 years is appropriate.

Decision

210. In exercising our delegation under sections 34 and 34A of the RMA and having regard to the foregoing matters, sections 104, 105, 107 and 104B and Part 2 of the RMA, we determine that the resource consents should be granted for the reasons stated above and summarised below, subject to the conditions set out in **Appendix 1**.

Reasons for the decision

211. Our detailed reasons for this decision are set out above. In summary:
- i. On the basis of the detailed evidence we have received we are satisfied that the proposal will have no more than minor adverse effects on the coastal environment. Actual and potential effects on the environment can be suitably mitigated and remedied through the use of regular environmental monitoring, undertaking regular community engagement and limits on discharge volumes/quality, including limits on particular contaminants.
 - ii. The proposal is consistent with the Auckland Council Regional Policy Statement and the AUP(OP) and ACRP:C. The parameters of the discharge as sought will avoid significant effects on the receiving environment, while also allowing for the provision of quality, affordable wastewater services for the local community and future growth of that community.
 - iii. The proposal is consistent with the New Zealand Coastal Policy Statement and the Auckland Plan given the quality of the wastewater discharge, the method of wastewater discharge proposed, the effects on the receiving environment and the ability for the proposal's adverse effects to be managed by consent conditions over the 35-year duration of the permit.
 - iv. The proposal is also consistent with Part 2 of the RMA given its role in enabling the social, cultural and economic wellbeing in a manner which avoids significant adverse environmental effects. The values of the receiving environment within the Waiuku Estuary Manukau Harbour will be maintained and protected. The proposal has also recognised the relationship of Mana Whenua with the environment, while also being an efficient use of natural and physical resources.



K R M Littlejohn (for and on behalf of the Commissioners)

Chairperson

5 December 2017

APPENDIX 1

General conditions

Consent Holder	Watercare Services Limited
Consent Duration	These consents will expire 35 years from the date the consents commence
Lapse Period	Eight years
Location	Waiuku Channel, adjacent to the Clarks Beach Golf Course
Consent Numbers	CST60082600 and CST60082302

General Summary of Management and Monitoring Plan Requirements

Plan Type	Timing	Condition #
Receiving Environment Monitoring Programme	At least two years prior to the commencement of the treated wastewater discharge	27
Receiving Environment Monitoring Report	No later than two years following the commencement of the treated wastewater discharge and subsequently at five yearly intervals thereafter.	28
Annual Performance Report	By 30 September for each year of operation of the WWTP	10
Operations and Management Plan	No later than six months following the commencement of the treated wastewater discharge	30
Monitoring and Technology Review Report	No later than 5 years following the commencement of these consents and then at Years 10, 15, 20, 25 and 30.	11
Emerging Contaminants Risk Assessment	By 30 September 2022 and subsequently at five yearly intervals thereafter.	33
Offshore Outfall Construction Management Plan	No later than 30 working days prior to the commencement of the construction of the offshore outfall pipeline and	36

	diffuser	
Drilling Fluid Management Plan	No later than 30 working days prior to commencement of the construction of the offshore outfall pipeline and diffuser	39
Offshore Outfall Inspection Report	Every five years from the commencement of the treated wastewater discharge and subsequently at five yearly intervals thereafter.	51

Table 1: General Summary of Management and Monitoring Plan Requirements

Conditions applying to both coastal permit CST60082600 and coastal permit CST60082302

1. The wastewater treatment process at the WWTP and physical discharge facilities shall be designed, operated and maintained, and receiving environment monitoring shall be, in general accordance with the information provided with the application, and all referenced by the Council as consent numbers CST60082600 and CST60082302 as follows:
 - (c) Volume One: Assessment of Environmental Effects report, titled "Southwest Sub-regional Wastewater Treatment Plant Discharge to the Waiuku Estuary", prepared by Watercare Services Limited, dated 30 June 2016.
 - (d) Volume Two: Supporting Documents:
 - Report titled "Assessment of Ecological Effects on the Receiving Environment from the Discharge of Treated Wastewater from a Combined Clarks Beach, Waiuku and Kingseat WWTP", prepared by Mark James, Mike Stewart, Ngaire Phillips and Jim Cooke (Aquatic Environmental Sciences Ltd and Streamlined Environmental Limited), dated May 2016;
 - Report titled "Southwest Sub-Regional Wastewater Treatment Plant Application – Assessment of the Sensitivity of the Receiving Environment of the South-West Manukau Harbour to Predicted Contaminants", prepared by Mark James, Mal Green and John Oldman (Aquatic Environmental Sciences Ltd and Streamlined Environmental Limited), dated February 2016;
 - Report titled "Stakeholder Report", prepared by MWH New Zealand Limited, dated June 2016; and
 - Report titled "Southwest Sub-Regional Wastewater Servicing Project - Assessment of Alternatives Report", prepared by MWH New Zealand Limited, dated 29 June 2016.
 - (e) Further documents provided post-lodgement:

- Section 92 Response (1) titled “*Watercare Response to S92 Request for Further Information Request*”, prepared by Tanvir Bhamji of Watercare Services Limited, dated 20 April 2017;
- Document titled “*Draft Receiving Environment Monitoring Programme*”, prepared by Watercare Services Limited, dated 11 June 2017;
- Section 92 Response (2) titled “*Watercare Response to S92 Request for Further Information Request*”, prepared by Tanvir Bhamji of Watercare Services Limited, dated 18 August 2017; and
- Email regarding the construction methodology from Tanvir Bhamji of Watercare Services Limited dated 29 August 2017.

In the event of any conflict between the documents listed above and the conditions of this consent, the conditions shall prevail.

2. Under section 125 of the RMA, these consents lapse eight years after the date they are granted unless, before the lapse date:
 - (a) The consents are given effect to; or
 - (b) The Council extends the period after which the consent lapse.
3. The consent holder shall pay the Council an initial consent compliance monitoring charge of \$1,200 inclusive of GST, plus any further monitoring charge or charges to recover the actual and reasonable costs incurred to ensure compliance with the conditions attached to this consent/s.

Advice note:

The initial monitoring deposit is to cover the cost of inspecting the site, carrying out tests, reviewing conditions, updating files, etc., all being work to ensure compliance with the resource consent. In order to recover actual and reasonable costs, monitoring of conditions, in excess of those covered by the deposit, shall be charged at the relevant hourly rate applicable at the time. The consent holder will be advised of the further monitoring charge. Only after all conditions of the resource consent have been met, will the Council issue a letter confirming compliance on request of the consent holder.

4. The agents of the Auckland Council shall be permitted to have access to the WWTP and discharge facilities at all reasonable times for the purpose of carrying out monitoring procedures, inspections, surveys, investigations, tests, measurements or take samples while adhering to the consent holder's health and safety policies.

Consultative Group

5. No later than six months after the commencement of these consents, the consent holder shall invite stakeholders including, but not limited to, one representative each from Te Ara Rangatu o Te Iwi o Ngati Te Ata Waiohua, Ngati Tamaoho Trust, Te Akitai o Waiohua, Te Ahiwaru (Makaurau Marae), Te

Kawerau a Maki, the Manukau Harbour Restoration Society, the Ornithological Society of New Zealand Inc (BirdsNZ), and the Auckland Regional Public Health Service to establish, in association with the consent holder, a Consultative Group. A general invitation shall be made by way of public notice in the Franklin Country News and the Post (Franklin & North Waikato) and on the consent holder's website.

6. The consent holder shall provide reasonable organisation and administrative support to facilitate the development and on-going role of this Consultative Group for the duration of the consent. The Consultative Group shall be invited to meet at least six-monthly to exercise the functions set out in Condition 7. Upon agreement with the Consultative Group and the Auckland Council's Team Leader – Southern Monitoring, the meeting frequency may be reduced. All reports shall be provided to the Consultative Group in electronic format unless specified otherwise.
7. The functions of the Consultative Group shall include, but not be limited to, the following matters:
 - (a) Reviewing the performance of the WWTP and discharge facilities in relation to the quality of the treated wastewater discharge and compliance with the consent conditions;
 - (b) Reviewing the results of monitoring and the associated assessment of monitoring information carried out in accordance with the conditions of these consents;
 - (c) Receiving and commenting on the following documents:
 - i. Receiving Environment Monitoring Programme and Receiving Environment Monitoring Report;
 - ii. Annual Performance Report;
 - iii. Offshore Outfall Construction Management Plan;
 - iv. Operations and Management Plan;
 - v. Offshore Outfall Inspection Report;
 - vi. Monitoring and Technology Review Report;
 - vii. Emerging Contaminants Risk Assessment; and
 - viii. Complaints Register.
 - (d) Making suggestions to the consent holder and/or Auckland Council as to any practical physical measures and other initiatives further needed to address actual or potential adverse effects of the treated wastewater discharge;
 - (e) Making suggestions as to any additional investigations the consent holder might undertake in respect of actual or potential adverse effects of the treated wastewater discharge; and

- (f) Considering any other issues of concern to the Consultative Group relating to the WWTP treated wastewater discharge.

Any comments or suggestions provided for under (c), (d) or (e) above shall be provided to the consent holder and Auckland Council within 60 working days.

- 8. The consent holder shall provide minutes of each Consultative Group meeting to the Auckland Council and the members of the Consultative Group within four weeks of each meeting. The minutes shall include:
 - (a) A record of discussions and attendance at the meeting;
 - (b) A record of any suggestions provided or issues raised by the members of the Consultative Group including:
 - i. What actions are proposed by the consent holder to respond to suggestions made or issues raised by the Consultative Group as they relate to the functions of the Consultative Group as set out in Condition 7; and
 - ii. Where no actions are proposed to respond to suggestions or issues, the reasons why not.

Complaint Reporting and Processes

- 9. All complaints received by the consent holder about the treated wastewater discharge shall be logged immediately in the WWTP Complaints Register. The Register shall record:
 - (a) The date, time, location, duration and nature of the alleged event/ incident;
 - (b) Name, phone number and address of the complainant unless the complainant wishes to remain anonymous;
 - (c) Any remedial action taken by the consent holder in response to the complaint and when it was undertaken;
 - (d) The possible cause of the relevant event/ incident that lead to the complaint;
 - (e) The weather conditions at the time of the relevant event/ incident including estimates of wind direction, wind strength, temperature and cloud cover;
 - (f) The date and name of the person making the entry; and
 - (g) Details of any complaints received that may indicate non-compliance with the conditions of these consents shall be provided to the Council's Team Leader - Southern Monitoring within 24 hours of receipt of the complaint or on the next working day. All other complaints shall be included in the Annual Performance Report required by Condition 10.

Reporting

10. An Annual Performance Report shall be submitted by the consent holder to the Council's Team Leader - Southern Monitoring and the Consultative Group as per Condition 7 by September 30 of each year in which the treated wastewater discharge is occurring. The report shall:
 - (a) Collate, analyse and interpret the monitoring results required by the conditions of these consents for the previous year from 1 July to 30 June;
 - (b) Report the calculated Average Dry Weather Flow (ADWF) for the previous year from 1 July to 30 June;
 - (c) Include comment on WWTP performance in relation to the quality of the treated wastewater discharge and any significant trends in changes in the discharge volume and/or the discharge quality standards over time;
 - (d) Comment on compliance with each consent condition and evaluate against the Auckland Council's standard compliance scoring protocol; and
 - (e) Identify any actions required and submit a timetable to rectify any non-compliance.

Monitoring and Technology Review Report

11. The consent holder shall submit a Monitoring and Technology Review Report to the Council's Team Leader – Southern Monitoring by the 5th, 10th, 15th, 20th, 25th and 30th anniversaries of the commencement of these consents. The Review Report shall be provided to the Consultative Group as per Condition 7, with a request for comments to be provided to the consent holder and Auckland Council within 60 working days. After receiving comments from the Consultative Group (or in the case that no comments are forthcoming, after 60 working days), the Report shall be submitted to the Team Leader – Southern Monitoring for certification it has been produced in accordance with the requirements of these conditions.
12. The Monitoring and Technology Review Report shall include the following:
 - (a) An assessment of ongoing compliance with the requirements of these resource consents particularly in relation to any reported non-compliance with consent conditions;
 - (b) An assessment of compliance/consistency with any relevant national or regional water quality policies, environmental standards or guidelines in effect at the time;
 - (c) An assessment of the results of the consent holder's monitoring undertaken in accordance with these consents, including the adequacy and scope of such monitoring;
 - (d) A summary of any residual actual or potential adverse effects of the treated wastewater discharge, particularly effects of the treated wastewater

discharge on total nitrogen and total phosphorus concentrations in the receiving environment and the relationship of total nitrogen and total phosphorus to limiting algal growth, irrespective of whether the discharge complies with the conditions of these consents;

- (e) An outline of significant technological changes and advances in relation to wastewater management, inflow reduction, treatment, discharge and beneficial reuse technologies (including Managed Aquifer Recharge) that could be of relevance for possible future use in the South-west Sub-regional Wastewater Scheme treatment and discharge facilities. Specific information shall be included on actions the consent holder has investigated for wastewater reuse and the results of those investigations along with discharge volume reduction that has been achieved since the commencement of these consents, when assessed on a per domestic connection equivalent basis; and
- (f) An assessment of whether any newly available technology option/s or combination of options identified through (e) above represent the Best Practicable Option (**BPO**) to minimise the potential and actual adverse effects of the treated wastewater discharge and whether the consent holder intends to adopt that BPO and incorporate such technologies.

Those matters listed in 12(a) to (d) shall not be required in the Monitoring and Technology Review Report until after the discharge of treated wastewater has commenced.

- 13. The conditions of these consents may be reviewed by the Council's Team Leader - Southern Monitoring pursuant to section 128 of the RMA, by giving notice pursuant to section 129, on the fifth anniversary of the commencement of the discharge of treated wastewater and subsequently at five yearly intervals thereafter in order:
 - (a) To deal with any significant adverse effect on the environment arising from the exercise of the consent, which was not foreseen at the time the application was considered and which is appropriate to deal with at the time of review; or,
 - (b) To consider developments in technology and management practices that would enable practical reductions in the discharge of contaminants; or
 - (c) To alter the monitoring requirements, including requiring further monitoring, or increasing or reducing the frequency of monitoring.
- 13A. The conditions of these consents may be reviewed by the Council's Team Leader - Southern Monitoring pursuant to section 128 of the RMA, by giving notice pursuant to section 129, on 30 June 2032, being six months prior to the expiry of the discharge permit for the Mangere Wastewater Treatment Plant in order:

- (a) To consider the effects on the environment arising from the exercise of this consent in combination with the proposed effects on the environment of any replacement consent that may be sought for the discharges into the Manukau Harbour of the Mangere Wastewater Treatment Plant, which are appropriate to deal with at the time of review;
- (b) To alter the contaminant discharge limits, monitoring requirements (including requiring further monitoring), or increasing or reducing the frequency of monitoring.

Specific conditions – coastal permit CST60082600

- 14. The treated wastewater compliance monitoring point for the purpose of monitoring compliance with Conditions 15 and 16 shall be at the point immediately following the UV disinfection system at the WWTP at or about grid reference 5879106N and 1753497E (NZTM).

Discharge Limits

- 15. The consent holder shall ensure that the quality of the treated wastewater at the treated wastewater compliance monitoring point does not exceed the limits as set out in Table 2.

Parameter	Unit	Laboratory Detection Limit	Median Limit	92nd Percentile Limit
Carbonaceous Biochemical Oxygen Demand (cBOD ₅)	mg/L	0.5	5	20
Total Suspended Solids (TSS)	mg/L	0.2	5	20
Total Ammoniacal Nitrogen (NH ₄ -N)	mg/L	0.4	2	15
Total Nitrogen (TN)	mg/L	0.01	5	20

Table 2: Treated Wastewater Quality Discharge Limits

For the purposes of this condition, to determine compliance with median limits no more than 12 samples out of any 24 consecutive weekly samples shall exceed the specified limit. To determine compliance with the 92nd percentile limit, no more than two samples out of any 24 consecutive weekly samples shall exceed the specified limit.

- 16. The consent holder shall ensure that a validated UV dose of 35 mWs/cm² is delivered by the UV disinfection facility for 99% of the time (calculated on the basis of a 15-minute average) over each calendar month.

Treated Wastewater Monitoring (Immediately After UV Disinfection)

- 17. The consent holder shall take 24 hour flow proportioned samples of the treated wastewater on a weekly basis from the treated wastewater compliance monitoring point, for the purposes of determining compliance with Condition 15 and monitoring under Conditions 19 and 20.

18. All wastewater quality analyses shall be undertaken by an IANZ accredited or equivalent laboratory. All methods used shall be appropriate for the wastewater analyses undertaken.
19. The consent holder shall take 24 hour flow proportioned samples (taken in accordance with Condition 17) of the treated wastewater on a weekly basis from the treated wastewater compliance monitoring point and analyse for the parameters set out in Table 3.

Parameter	Unit	Laboratory Detection Limit
Nitrite-Nitrogen (NO ₂ -N)	mg/L	0.002
Nitrate-Nitrogen (NO ₃ -N)	mg/L	0.02
Dissolved Reactive Phosphorus (DRP)	mg/L	0.005
Total Phosphorus (TP)	mg/L	0.005
Temperature	Degrees Celsius	N/A
Electrical Conductivity	µS/cm	5.0
pH	unit	0.1

Table 3: Treated Wastewater Quality Monitoring

20. The consent holder shall monitor on a three-monthly basis (by grab samples) the treated wastewater at the treated wastewater monitoring compliance point for the parameters set out in Table 4 below for two years following commencement of the discharge of treated wastewater. After two years of monitoring the frequency of monitoring shall be reduced to 6 monthly (by grab samples) for the duration of the consent.

Parameter	Unit	Laboratory Detection Limit
Arsenic (Total)	mg/L	0.0001
Cadmium (Total)	mg/L	0.00005
Chromium (Total)	mg/L	0.0005
Copper (Total)	mg/L	0.0002
Lead (Total)	mg/L	0.0001
Nickel (Total)	mg/L	0.0001
Zinc (Total)	mg/L	0.001

Table 4: Treated Wastewater Detection Parameters

Treated Wastewater Monitoring (After Tidal Holding Facility and Prior to Discharge)

21. The consent holder shall take a 24 hour flow proportioned sample of the treated wastewater on a weekly basis from a point after the tidal holding facility at the Clarks Beach site and prior to discharge to the coastal marine area and analyse for the parameters set out in Table 5.

Parameter	Unit	Laboratory Detection Limit
Carbonaceous Biochemical Oxygen Demand (cBOD ₅)	mg/L	0.5
Total Suspended Solids (TSS)	mg/L	0.2
Total Ammoniacal Nitrogen (NH ₄ -N)	mg/L	0.4
Total Nitrogen (TN)	mg/L	0.01
Nitrite-Nitrogen (NO ₂ -N)	mg/L	0.002
Nitrate-Nitrogen (NO ₃ -N)	mg/L	0.02
Dissolved Reactive Phosphorus (DRP)	mg/L	0.005
Total Phosphorus (TP)	mg/L	0.005
Temperature	Degrees Celsius	N/A
Electrical Conductivity	µS/cm	5.0
pH	unit	0.1

Table 5: Treated Wastewater Quality Monitoring – After Tidal Holding Facility and Prior to Discharge to the Coastal Marine Area

Discharge Volume

22. The discharge shall not exceed a maximum volume of 20,250m³ of treated wastewater per day, with a maximum flow rate of 727.5 litres per second (calculated as an average over each tidal discharge cycle) and average dry weather flow (**ADWF**) of 6,750m³ per day.

Discharge Location

23. The discharge location shall be in the Waiuku Channel at or about grid reference 5887800N and 1750600E (NZTM).

Discharge Timing

24. The discharge of treated wastewater at the discharge location shall not commence until one hour after any high tide and may last for a period of up to four hours.

Discharge Monitoring

25. The consent holder shall monitor the flow rate of treated wastewater leaving the tidal holding facility at the Clarks Beach site (prior to the discharge location) and shall record the total daily discharge volume. The discharge volume meters must be maintained to ensure an accuracy of plus or minus 5 percent.

Receiving Environment Monitoring Programme

26. The consent holder shall prepare a Receiving Environment Monitoring Programme (REMP) as follows:
- (a) Prior to monitoring commencing the REMP shall be submitted to the Council's Team Leader – Southern Monitoring for certification that it has been produced in accordance with the requirements of these conditions. The REMP shall be in general accordance with the requirements listed in (b)(i) to (xii) below and the Draft Receiving Environment Monitoring Programme, a copy of which is attached as **Appendix One**. The certified REMP shall also be provided to the Consultative Group by the consent holder.
 - (b) The purpose of the REMP is to detect and delineate any obvious temporal trends in Manukau Harbour water quality, shellfish quality and marine ecology related to the discharge of wastewater from the WWTP. The REMP shall include/address:
 - i. Coastal water quality monitoring (initially from 10 sites);
 - ii. Shellfish monitoring for microbial contaminants (initially from four sites);
 - iii. Benthic ecology monitoring (initially from nine sites and reef ecology from one site);
 - iv. Shellfish monitoring (initially from six sites for scallops, five sites for cockles and five sites for oysters);
 - v. A procedure for modifying the REMP;
 - vi. Records of comments received from the Consultative Group;
 - vii. Spatial and temporal extent of the key biogenic habitats (scallop beds, sponge gardens, horse mussel beds, seaweed forests) within 1km from the proposed outfall;
 - viii. Benthic community (fauna and flora) abundance and diversity;
 - ix. Sediment quality analysis (heavy metals, grain size, organic content, anoxic layer/redox potential);

- x. Spatial and temporal extent of algal blooms;
- xi. Suitability of kaimoana species for harvesting and human consumption. This shall include species, size and number of samples to monitor; and
- xii. Reporting procedures.

Monitoring design for the above aspects is to include the number of samples, spacing of sample stations in relation to the position of the outfall, frequency of sampling, methodology and reporting. The monitoring programme should be designed to deliver ecologically meaningful results and be statistically robust enough to detect potential changes to those matters listed above.

- 27. As a minimum, for two years prior to and two years following commencement of the discharge of treated wastewater to the Waiuku Channel as authorised by this resource consent, the consent holder shall undertake the monitoring in accordance with the REMP as described in Condition 26 and shall provide a summary data report to the Auckland Council on an annual basis for the first three years of implementing the REMP. The summary data report shall provide the raw data collected and a summary interpretation of the results of the REMP.
- 28. On completion of two years of receiving environment monitoring following commencement of the treated wastewater discharge, and every five years thereafter, the consent holder shall engage a suitably qualified person to prepare a Receiving Environment Monitoring Report. The Receiving Environment Monitoring Report shall as a minimum:
 - (a) Summarise the results of the REMP against relevant standards and/or guidelines;
 - (b) Critically assess any significant trends in the results of the receiving environment monitoring;
 - (c) Assess any significant adverse effects of the treated wastewater discharge on receiving water quality, shellfish quality and marine ecology, irrespective of whether the discharge complies with the conditions of this consent; and
 - (d) Recommend that the frequency of sampling and/or number of sites specified in Condition 26 be maintained, increased or reduced as appropriate.
- 29. The consent holder shall provide the Receiving Environment Monitoring Report to the Council's Team Leader – Southern Monitoring for certification that the report meets the requirements of Condition 28, and that any recommendations under Condition 28(d) accord with the purpose of the REMP as stated in Condition 26(b). The Receiving Environment Monitoring Report shall also be provided to the Consultative Group as per Condition 7.

Operations and Management Plan

- 30. Within six months of the commencement of the discharge of treated wastewater, the consent holder shall prepare an Operations and Management Plan (**OMP**). The objective of the OMP is to provide a framework for the operation and

management of the WWTP and discharge facilities to ensure compliance with the conditions of consent. The OMP shall be submitted to the Council's Team Leader – Southern Monitoring for certification that it is consistent with the requirements of this condition and Condition 31. The OMP shall be reviewed and updated every three years by the consent holder and as required as a result of any significant changes in WWTP and discharge facilities' operation or management that could affect the quality and quantity of the discharge to the coastal marine area. An electronic copy of the OMP shall be provided to the Council's Team Leader – Southern Monitoring within 10 working days of a request to do so.

31. As a minimum, the OMP shall include:
- (a) An overview description of the WWTP and discharge facilities;
 - (b) A description and schedule of the routine inspection, monitoring and maintenance procedures to be undertaken to ensure operation of the WWTP and discharge facilities, complies with this consent;
 - (c) A description of the sampling location/s and methodology for sampling the treated wastewater discharge;
 - (d) A schedule of the critical aspects of the WWTP and the detailed response and contingency plans to remedy any possible variations from normal plant operation that could potentially affect discharge quality;
 - (e) Details of contingency plans and procedures to address a critical power or equipment failure at the WWTP;
 - (f) Procedures for recording routine maintenance and all major repairs that are undertaken; and
 - (g) The consent holders chain of command, responsibility and notification protocols.
32. Any improvement or review of the OMP shall be consistent with the objective of the OMP and submitted to the Council's Team Leader – Southern Monitoring for certification.

Emerging Contaminants

33. The consent holder shall engage a suitably qualified person to undertake an Emerging Contaminants Risk Assessment (ECRA) by 30 September 2022 and five yearly intervals thereafter. The ECRA as a minimum include:
- (a) A review of the state of knowledge of emerging contaminants relevant to the WWTP since the commencement of these consents or the previous ECRA;
 - (b) Consideration of whether additional samples are required for the purposes of the ECRA;

- (c) Measurement of emerging contaminants if determined necessary and the results of any samples collected;
- (d) An assessment of the risks to the environment from emerging contaminants in the treated wastewater discharged from the WWTP;
- (e) The ECRA shall be forwarded to the Council (Team Leader – Southern Monitoring) by 30 September of each year that it is required.

Specific conditions – coastal permit CST60082302

Outfall and Diffuser Location

- 34. The outfall and diffuser structure shall be located in the Waiuku Channel at or about co-ordinates 5887800N and 1750600E (NZTM).
- 35. The diffuser structure shall be a 40 port diffuser outfall pipeline, or an alternative outfall structure providing, as a minimum, an equivalent dilution factor as presented in the AEE, to the satisfaction of the Council's Team Leader – Southern Monitoring.

Offshore Outfall Construction Management Plan

- 36. No later than 30 working days prior to the commencement of construction the consent holder shall prepare an Offshore Outfall Construction Management Plan (**OOCMP**) for the construction of the offshore outfall pipeline and diffuser structure within the coastal marine area and submit the OOCMP to the Council's Team Leader – Southern Monitoring for certification it has been produced in accordance with the requirements of this condition. No later than 30 working days prior to providing the OOCMP to the Council, the OOCMP shall be provided to the Consultative Group for review and comment, as per Condition 7. The objective of the OOCMP is to confirm the detailed construction methodology for the outfall/diffuser and the measures proposed to mitigate potential adverse effects during construction. The OOCMP shall include:
 - (a) Pipeline(s) profile and diffuser structure and design concept;
 - (b) Type of construction method being adopted and material types;
 - (c) Method of backfilling and the nature of trench backfill material, including that the material is free from contaminants and sized to prevent scour and remobilisation;
 - (d) Threshold levels for total suspended solids in the water column, monitoring and response procedures, and methods to remedy disturbance resulting from the construction works;
 - (e) Hydrostatic and any other testing of the pipeline(s);
 - (f) The proposed timeframe for construction (including contingency);
 - (g) Contingency plans in case of discharges to the coastal marine area;

- (h) Site management; including details of:
 - i. Site access;
 - ii. Signage during the construction works;
 - iii. Methods to be used to minimise the need for cleaning, refuelling, maintenance and storage of equipment and machinery in the coastal marine area;
 - iv. Procedures for cleaning, refuelling, maintenance or storage of equipment or machinery in any part of the coastal marine area if this is required, and measures to avoid discharges of contaminants during cleaning, refuelling, and maintenance activities in the coastal marine area; and
 - v. Site clean-up following completion of the construction works.
- (i) Identification of all construction access points to the coastal marine area and along the foreshore;
- (j) Health and safety and access matters relating to general public accessing and using the coastal marine area and along the foreshore;
- (k) Minimisation as far as is reasonably practical the footprint of the disturbed area;
- (l) A vegetation restoration and maintenance programme including an inter-tidal shoreline restoration plan (only required if the inter-tidal rock platform is cut and disturbed);
- (m) Measures proposed to minimise disruption to water related recreational activities (including boating) in the vicinity of the construction activities; and
- (n) Measures to minimise underwater noise effects during construction.

The consent holder shall ensure that the outfall construction is undertaken generally in accordance with the OOCMP.

Notifications

- 37. The consent holder shall notify the Council's Team Leader – Southern Monitoring in writing of the date of the proposed commencement of works at least 10 working days prior to the proposed start date.
- 38. The Harbourmaster's Office (Auckland Transport Harbourmasters Office, HarbourMaster@aucklandtransport.govt.nz or Private Bag 92250, Auckland 1142) shall be notified by the consent holder in writing at least 10 working days prior to construction activity commencing in the coastal marine area.

Construction Management – Horizontal Directional Drilling

39. A Drilling Fluid Management Plan shall be prepared by an appropriately qualified person and submitted to the Council's Team Leader – Southern Monitoring for certification that it meets the purpose stated in this condition no later than 30 working days prior to commencement of construction activities in the coastal marine area. The purpose of the Drilling Fluid Management Plan is to demonstrate how drilling fluid will be used, stored and disposed of in a manner designed to prevent unlawful discharges into the environment.

Construction Reporting

40. During installation of the off-shore outfall pipeline and diffuser, the consent holder shall provide monthly reports to the Council's Team Leader – Southern Monitoring regarding details of the monitoring undertaken to demonstrate the activities are in accordance with the OOCMP.
41. In the event of the detection of any system failure of the offshore outfall and diffuser structure while under construction or in operation, the Council's Team Leader – Southern Monitoring shall be notified within 24 hours of such a system failure and provided with details of:
- (a) The nature of any failure including effects; and
 - (b) Any remedial works to be carried out.

Erosion within the Coastal Marine Area

42. All practicable measures shall be undertaken to ensure that the construction of the offshore outfall and diffuser does not exacerbate erosion within the coastal marine area.
43. In the event of erosion occurring as a direct result of the construction or operation of the offshore outfall and diffuser, the consent holder shall, in consultation with the Council's Team Leader – Southern Monitoring, undertake all practicable measures to remedy any damages caused and minimise the potential for future erosion.

Completion of Works

44. The consent holder shall, within one month following the completion of works, remove all temporary structures from the coastal marine area and shall ensure that all disturbed areas are returned to a state generally consistent with the surrounding seabed and foreshore, to the satisfaction of the Council's Team Leader - Southern Monitoring.
45. The Council's Team Leader – Southern Monitoring shall be notified in writing of the date of completion of the works, within one week of the completion date.
46. Within one month of the completion of the proposed works, a complete set of "as built" plans shall be supplied to the Council's Team Leader - Southern Monitoring.

47. The consent holder shall remove the existing redundant outfall at the Waiuku WWTP and associated structures located within the coastal marine area within 12 months of the operation of the WWTP.

Use and Occupation

48. The use of the offshore outfall pipeline and the diffuser structure, which may include any temporary structures associated with the installation, repair and maintenance of the offshore outfall pipeline and diffuser structure, shall be limited to the conveyance and discharge of treated wastewater
49. The right to occupy part of the common marine and coastal area shall be limited to the area constructed under this permit and temporary staging works identified in the documents listed in Condition 1.
50. The right to occupy part of the common marine and coastal area with constructed structures under this permit shall not be an exclusive right.

Offshore Outfall Inspection Report

51. The consent holder shall provide to the Council's Team Leader – Southern Monitoring and the Consultative Group, as per Condition 7, every five years from the commencement of the treated wastewater discharge a report prepared by a suitably qualified and experienced person(s) to demonstrate that the offshore outfall and diffuser structure is:
 - (a) In sound repair and the diffuser ports are clear of any significant marine growths and that there are no significant losses occurring from the system; and
 - (b) The offshore outfall pipeline is not exposed above the seabed floor other than the diffuser structure.

In the event that the consent holder is aware that the offshore outfall pipeline is identified as having become exposed (other than the diffuser section that is designed to be exposed), either as a result of an inspection carried out or at any other time, the Council's Team Leader – Southern Monitoring and The Harbourmaster's Office (Auckland Transport Harbourmasters Office, Private Bag 92250, Auckland, 1142 or HarbourMaster@aucklandtransport.govt.nz) shall be notified immediately and provided with a report providing an assessment of effects and any proposed remediation or risk management to be undertaken within 10 working days.

As-built Plans to Council and Chief Hydrographer

52. Within twenty (20) working days of the completion of the construction works, the consent holder shall supply a copy of the 'as built' plans to the Council's Team Leader – Southern Monitoring and the New Zealand Hydrographic Authority (Land Information New Zealand, Private Box 5501, Wellington 6011 or customersupport@linz.govt.nz). The 'as built' plans shall include a location plan,

a plan which shows the area of occupation, outfall dimensions, and cross sections.

Maintenance Requirements

53. The structures permitted to occupy part of the common marine and coastal area by this consent shall be maintained in a good and sound condition, and any repairs that are necessary shall be made, subject to obtaining any necessary resource consents.

Definitions and Abbreviations

Term	Definition
Average Dry Weather Flow	The flow averaged over a year using only flows calculated on those days defined as a 'dry day'.
Consultative Group	A group to be formed between the consent holder and stakeholders for on-going involvement throughout the resource consent term.
Discharge Facilities	The tidal storage basin at the existing Clarks Beach Wastewater Treatment Plant site and the proposed offshore outfall and diffuser structure located in the Waiuku Channel off the existing Clarks Beach Golf Course.
Discharge Location	The location of the treated wastewater discharge to the Coastal Marine Area of the Waiuku Channel.
Dry Day	A day when the flow in the wastewater network is indicative of a dry weather period. A dry day is defined as a day with fourteen preceding days including the dry day of 25mm or less of total rainfall. Using this definition, a dry day requires fourteen preceding consecutive days and the dry day itself to have a total rainfall of 25mm or less, to be defined a 'dry day'.
Treated Wastewater Compliance Monitoring Point	The point immediately following the UV disinfection system located within the WWTP site.
Validated Dose	The Ultraviolet (UV) dose reported by the UV system shall be a biosimetrically validated UV dose, established according to the procedures described in the US EPA UV Disinfection Guidance Manual, 2006. Biosimetric work should have been conducted with a multiple test organisms (minimum two) and would include the sensitivity of the target organism within the dose prediction equation. The validated UV dose shall be reported utilising the predicted sensitivity of MS2 bacteriophage within the dose prediction equation and shall be limited, where appropriate, to the boundaries of validation envelope.
Council	Auckland Council
ADWF	Average Dry Weather Flow
BPO	Best Practicable Option
DO	Dissolved Oxygen
DRP	Dissolved Reactive Phosphorus
NH ₄ -N	Total Ammoniacal Nitrogen
OMP	Operations and Management Plan
OOCMP	Offshore Outfall Construction Management Plan
RMA	Resource Management Act 1991
TIN	Total Inorganic Nitrogen
TP	Total Phosphorus
TSS	Total Suspended Solids
WWTP	The future Waiuku Wastewater Treatment Plant

Advice notes

Any reference to number of days within this decision refers to working days as defined in section 2 of the RMA.

For the purpose of compliance with the conditions of consent, “the Council” refers to the Council’s monitoring inspector unless otherwise specified.

For more information on the resource consent process with Auckland Council see the Council’s website www.aucklandcouncil.govt.nz. General information on resource consents, including making an application to vary or cancel consent conditions can be found on the Ministry for the Environment’s website: www.mfe.govt.nz.

The consent holder is responsible for obtaining all other necessary consents, permits, and licences, including those under the Building Act 2004, and the Heritage New Zealand Pouhere Taonga Act 2014. This consent does not remove the need to comply with all other applicable Acts (including the Property Law Act 2007 and the Health and Safety in Employment Act 1992), regulations, relevant Bylaws, and rules of law. This consent does not constitute building consent approval. Please check whether a building consent is required under the Building Act 2004.

Compliance with the consent conditions will be monitored by the Council in accordance with section 35(d) of the RMA. This will typically include site visits to verify compliance (or non-compliance) and documentation (site notes and photographs) of the activity established under the consents. In order to recover actual and reasonable costs, Inspections will be charged at the relevant hourly rate applicable at the time.