Wellington Water

WET WEATHER OVERFLOWS FROM THE HUTT VALLEY AND WAINUIOMATA WASTEWATER NETWORKS:

Applications for Resource Consent and Assessment of Environmental Effects

PART 1 REPORT

Quality Control

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APPLICATION FOR RESOURCE CONSENT UNDER SECTION 88

OF THE RESOURCE MANAGEMENT ACT 1991

To: Greater Wellington Regional Council

1. Wellington Water Ltd. as a Council Controlled Organisation of Upper Hutt City Council and Hutt City Council, IBM House, 25 Victoria Street, Petone is applying for the following types of resource consent:

   Discharge permit

   Coastal permit

2. The activities to which the application relates (the proposed activity) are as follows:

   Existing wastewater discharges resulting from wet weather overflows from the Hutt City Council and / or Upper Hutt City Council Wastewater Network:

   a) to freshwater or to coastal water; or

   b) onto or into land where the discharge may enter freshwater or coastal water.

   Existing wastewater discharges resulting from wet weather overflows from the Hutt City Council and Upper Hutt City Council wastewater network to the Hutt City Council and / or Upper Hutt City Council stormwater networks and subsequently:

   a) to freshwater or to coastal water; or

   b) onto or into land where the discharge may enter freshwater or coastal water.

3. The sites at which the discharges occur are various watercourses, the coastal marine area and land within Hutt and Upper Hutt cities. Maps of the Wastewater Network Overflow Catchments and Wastewater Networks as at October 2020 are contained in Attachment 1 of the proposed consent conditions.

4. The full name and address of each owner or occupier (other than the applicant) of the site to which the application relates are as follows:

   Hutt City Council
   30 Laings Road
   Lower Hutt 5040

   Upper Hutt City Council
   838-842 Fergusson Drive
   Upper Hutt 5018

   Crown Land

5. There are no other activities that are part of the proposal to which this application relates.

6. No additional resource consents are needed for the proposal to which this application relates.

7. Attached is:

   Wet Weather Overflows from the Hutt Valley and Wainuiomata Wastewater Networks: Application for Resource Consents and Assessment of Environmental Effects, Part 1 Report

   Wet Weather Overflows from the Hutt Valley and Wainuiomata Wastewater Networks: Application for Resource Consents and Assessment of Environmental Effects, Part 2 Report

Cultural Impact Report: Hutt Valley Wastewater Overflows Consenting Te Awa Kairangi / Hutt & the Wainuiomata Rivers and their tributaries, Raukura Consultants

which contain assessments of the proposed activity's effect on the environment that—

a) includes the information required by clause 6 of Schedule 4 of the Resource Management Act 1991; and

b) addresses the matters specified in clause 7 of Schedule 4 of the Resource Management Act 1991; and

c) includes such detail as corresponds with the scale and significance of the effects that the activity may have on the environment.

8. Attached is the Part 1 Report referred to in 7. above which contains an assessment of the proposed activity against the matters set out in Part 2 of the Resource Management Act 1991.

9. Attached is the Part 1 Report referred to in 7. above which contain assessments of the proposed activity against any relevant provisions of a document referred to in section 104(1)(b) of the Resource Management Act 1991, including the information required by clause 2(2) of Schedule 4 of that Act.

9. No further information is required to be included in this application by the district plan, the regional plan, the Resource Management Act 1991, or any regulations made under that Act.

10. A term of 35 years is sought for the resource consent.

Date: 11 May 2023

Signed on behalf of Wellington Water Limited

Address for Service:

Wellington Water Limited

c/- Stantec New Zealand

Attention: Paula Hunter

Phone: 09 580 4546

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Abbreviations

ARI	Average Recurrence Interval
BPO	Best Practicable Option
CCO	Council Controlled Organisation
CIA	Cultural Values Assessment
CMA	Coastal Marine Area
COP	Constructed Overflow Point
DoC	Department of Conservation
GWRC	Greater Wellington Regional Council
HCC	Hutt City Council
I&I	Inflow and Infiltration
LTP	Long Term Plan
LTS	Long-term Time Series
MACAA	Marine and Coastal Area (Takutai Moana) Act
NES-F	National Environmental Standard Freshwater 2020
NES-DW	National Environmental Standards for Sources of Human Drinking Water
NPS-FM	National Policy Statement for Freshwater Management 2020
NZCPS	New Zealand Coastal Policy Statement 2010
PCC	Porirua City Council
pNRP	Proposed Natural Resources Plan, final appeal version 2022
REC	River Environment Classification
RMA	Resource Management Act 1991
RPH	Regional Public Health
RPS	Regional Policy Statement for the Wellington Region 2013
SMA	Strategic Management Area

SPA	Systems Performance Assessment
Strategic Reduction Plan	Wastewater Network Overflow Strategic Reduction Plan
Sub-catchment Reduction Plan	Wastewater Network Overflow Sub-catchment Reduction Plan
WCC	Wellington City Council
WIP	Whaitua Te Whanganui-a-Tara Implementation Programme
WORP	Wastewater Overflow Response Plan
WNO	Wastewater Network Overflow
Collaborative Committee	Wastewater Network Collaborative Committee
WWTP	Wastewater Treatment Plant
Wellington Water	Wellington Water Limited
UHCC	Upper Hutt City Council

Glossary

Constructed Overflow	A discharge from a **Constructed Overflow Point**.
Constructed Overflow Point	A structure from which wastewater is discharged as a result of a **Wet Weather Overflow** in the **Wastewater Network**, typically a weir or pipe set at a designated height, to provide a controlled discharge from the **Wastewater Network** into water or to land or into the stormwater network.
Containment Standard	A targeted frequency of **Wet Weather Overflow Events**, to be achieved over time under this consent, expressed as the number of times per year(s) that a wet weather overflow event occurs at each discharge location, and measured based on average annual weather conditions as simulated by a computer model that is calibrated and verified periodically (which may differ from the actual number of times that overflows occur at a discharge location in a given year).
Dry Weather Flow	The flow in the **Wastewater Network** that would occur during a normal day in a dry weather period, including wastewater, trade waste and groundwater infiltration.
Dynamic Model	A model driven by rainfall, evaporation and dry weather flow loads to represent wet and dry weather flows through and out of the network, including the attenuation effects of the storage and operational controls. The dynamic model can be simulated by long time series climate data to assess wastewater network capacity and the frequency, volume and duration at which the network overflows to the environment.
Existing Discharge Resulting from Wet Weather Overflows	Overflows from the **Wastewater Network**: • previously authorised by resource consents or • that have occurred prior to 31 October 2020.
Gauging	A short term, intermittent measurement of flow in a pipe for purpose of model calibration.
Model Calibration	The adjustment of model hydrological and hydraulic parameters to represent observed wastewater flows and levels for selected dry and wet weather periods. The observed calibration data is usually of high quality and has been captured at a sufficient resolution, both temporally and spatially, to enable a representative calibration to be completed. Typically, the observed data is captured over a 3-to-12-month period and should record a range of wet weather events and sufficient dry weather periods to enable a representative model calibration to be completed.
Model Update	The update of the model to reflect the current state of network and catchment arrangement. An update could reflect recently completed

	projects and operational changes, or other changes to reflect updated information about the network. These updates can occur either in isolation or in combination of **Model Calibration** and **Model Verification** activities. Often the model update process will be followed by **Model Validation**.
Model Validation	The process assessing model reliability by reviewing performance over a longer period to that of the calibration observed data period. The validation dataset is usually sourced from a variety of data sources, for example long term monitor records, pump station operational records, reported incidents and call outs. Ideally this dataset would cover several years, with a five-year horizon likely to be a practical upper limit due to catchment changes and data quality. This dataset can be of lower resolution than the calibration dataset, with the emphasis being on summarising the recorded frequency and scale of wastewater network spills including both constructed and uncontrolled overflows. Typically, the focus of model validation is developing confidence in the model to represent frequency of wastewater network overflows over an extended period.
Model Verification	The process of comparing the calibrated model performance with the observed data. It excludes events that the model has been calibrated against. Its purpose is to demonstrate the representativeness of the calibration.
Receiving Environments	These are water bodies into which the **Wet Weather Overflows** discharge either directly or indirectly via the stormwater network. In most instances smaller freshwater receiving environments are contained within a single **Sub-catchment**. However, Te Awa Kairangi / the Hutt River and the marine water bodies are located within or impacted by multiple sub-catchments.
Sub-catchment	Smaller areas within the **Wastewater Network Catchment**. Each sub-catchment is serviced by a section of the wastewater network and will be used as the geographic basis for the Wastewater Network Overflow Reduction Plans. In several instances these sub-catchments align with the watershed of the smaller freshwater bodies (receiving environments).
The Manager	The Manager, Environmental Regulation, Greater Wellington Regional Council.
Wastewater Network Catchment	The Hutt Valley and Wainuiomata Catchments the extent of which are shown on the map in Attachment 1 of the proposed consent conditions.
Wastewater Networks	The Hutt Valley and Wainuiomata wastewater networks as at October 2020 shown on the map in Attachment 1 of the proposed consent conditions.
Wet Weather Flow	The flow within a wastewater network that is greater than the **Dry Weather Flow**, and which occurs as a result of rainfall (directly or indirectly) entering the network.

Wet Weather Overflow	Wastewater Overflow during times of **Wet Weather Flow**.
Wet Weather Overflow Event	One or more **Wet Weather Overflow** within **Wastewater Network Catchment** that end(s) when all overflows have ceased discharging for more than 24 hours. Where the overflow(s) stop(s) and then recommence(s) within 24 hours as a result of a single continuous or intermittent rainfall event, it is considered a single wet weather overflow event. Any overflow that occurs for more than 5 days is treated as a new event.
Uncontrolled Overflow	Discharge from an uncontrolled overflow point as a result of either a **Wet Weather Overflow** or a dry weather overflow. The underlying cause is usually a blockage, breakage or system failure during dry weather, or surcharging during wet weather.
Zero Overflow Aspirations	The aspirations of Mana Whenua as represented in Te Mahere Wai te Kāhui Taiao to remove all direct discharges of wastewater to freshwater and of the Whaitua Te Whanganui-a-Tara Committee for overflows to be completely removed unless in emergencies.

1.0 INTRODUCTION AND OVERVIEW

1.1 BACKGROUND

Wellington Water Limited (Wellington Water), as a Council Controlled Organisation (CCO) of Upper Hutt City Council (UHCC) and Hutt City Council (HCC), is seeking resource consents for wet weather overflow discharges from the wastewater networks on a catchment basis. The primary mitigation for the consent is a progressive reduction in overflows over a 35 year period.

Wastewater network overflows (WNO) are a common occurrence in wet weather when the wastewater network is overloaded with rainwater (that enters the wastewater network via inflow and infiltration (I&I)). Mostly the overflows discharge directly from wastewater pipes into the environment, sometimes directly into freshwater or coastal water. In other cases, the discharges are from a pump station. In all cases, the overflows are diluted by rainwater but untreated as they have not been through a wastewater treatment plant. Some of the overflows were designed into the system when it was constructed, others are unplanned. A couple of locations have screens and settling in storage tanks, providing partial, or preliminary treatment.

Some of the overflows, particularly in the trunk system, have previously been consented on a discharge-by-discharge basis. It is proposed to move away from this piecemeal, reactive approach, and instead apply a catchment wide prioritisation process to progressively reduce the frequency of overflows.

It is intended that the WNO discharges will be consented on a wastewater treatment plant (WWTP) catchment basis e.g., Seaview WWTP (Upper Hutt City Council, Hutt City Council) Porirua WWTP (Porirua City Council and the northern part of Wellington City) and the Moa Point and Western WWTPs (Wellington City). A total of three catchment wide WNO discharge consents will be sought by Wellington Water.

This application is for a catchment wide WNO consent for the Hutt Valley and Wainuiomata wastewater networks which comprise the catchment serviced by the Seaview WWTP.

1.2 BENEFITS

The benefits of obtaining catchment wide consents for wet weather overflows are that:

1. It will enable us to implement Te Mana o te Wai more effectively.
2. The consents will formalise wet weather overflow discharges so that they are managed in a comprehensive and integrated manner rather than the current arrangement under which there are multiple consents and discharges that do not have consents at all, or discharges for which the consents have expired.
3. There will be a consistent approach to managing WNO across the Wellington metropolitan area, particularly in terms of assessing effects, consent conditions, monitoring and reporting requirements, modelling, and initiatives to progressively reduce the frequency of overflows.
4. A series of Wastewater Network Overflow Reduction Plans for Wet Weather (Reduction Plans) will be put in place for progressively reducing the frequency of overflows. There will be two types of Reduction Plans:
    a. Strategic Wastewater Network Overflow Reduction Plan for Wet Weather (Strategic Reduction Plan)
    b. Sub-catchment Wastewater Network Overflow Reduction Plan for Wet Weather (Sub-catchment Reduction Plan).

5. For the first time a robust prioritisation process will be introduced. This will enable the prioritisation of works and upgrades on a catchment wide basis to deliver the best environmental outcomes while efficiently and effectively managing the wastewater network, rather than sometimes undertaking ad hoc works on a discharge by discharge basis as consents expire.
6. It will result in a reduction in the frequency of wet weather overflows.

1.3 STRUCTURE OF THE APPLICATION

This Hutt Valley and Wainuiomata WNO resource consent application comprises four parts:

Part 1 Report	Describes the Hutt Valley and Wainuiomata wastewater networks and overflows, and how the network is currently managed. Sets out the Strategic Management Plan for the management of the wet weather WNOs under the resource consent to progressively reduce the frequency of overflows. Summarises the methodology for assessing the effects of the WNOs and the findings of the Cultural Impact Report. Assesses the application against the relevant regulatory requirements. Describes the consultation undertaken to date.
Part 2 Report	Describes the methodology adopted for assessing the effects of the wet weather WNOs. Assesses the effects of the wet weather overflows for each receiving environment.
Cultural Impact Report	Assesses the effects of the overflows on Māori cultural values and in particular those held by Te Atiawa / Taranaki whānui and Ngāti Toa. This is a companion document to the application.
Resource Consent Conditions	Proposed resource consent conditions. Attachments: Hutt Valley and Wainuiomata Wastewater Network and Sub-catchments Methodology for Developing the Wastewater Network Overflow Strategic Reduction Plan Methodology for Setting the Containment Standard Methodology for Developing the Wastewater Network Overflow Sub-catchment Reduction Plans
Support Documents	Methodology for the Assessment of Effects of Wet Weather Wastewater Overflows December 2020 Black Creek Wastewater Containment Standard High Level Benefit Cost Assessment, Hydraulic Analysis Ltd., June 2022. Wellington Water Regional Wastewater Model Specification June 2020.

1.4 SCOPE OF CATCHMENT WIDE CONSENTS

1.4.1 Activities to be authorised by the catchment wide consents

The wet weather overflows are discharged during and after rainfall events from constructed overflow points (COPs) (e.g. pump stations and storage facilities) and unconstructed overflow locations, predominantly manholes.

The wastewater overflows from the Hutt Valley and Wainuiomata networks to be authorised by the catchment wide consent are:

1. Existing wastewater discharges caused by wet weather overflows from the wastewater network to freshwater, coastal water, or to land where the discharge may enter freshwater or coastal water.
2. Existing wastewater discharges caused by wet weather overflows from the wastewater network to the stormwater network and subsequently to freshwater, coastal water, or to land where the discharge may enter freshwater or coastal water.

Wet weather overflows to be covered by the consent include:

1. Existing consented and unconsented overflows
2. Overflows from constructed overflow points (COPs)
3. Uncontrolled overflows
4. Modelled overflows
5. Overflows that do not occur in 1 in 1 year rainfall events, but do occur in larger, less frequent rainfall events
6. Overflows on the local and trunk network
7. Overflows that are shown in the slightly wrong location on the Wastewater Network Strategic Model, e.g. may occur at the next manhole down the road.

The transfer of a discharge from an uncontrolled discharge point to a new COP is also covered by the consent.

1.4.2 Activities not covered by the catchment wide consents

The following activities are not authorised under the catchment wide consents:

1. Dry weather overflows
2. Overflow structures
3. Leakages from the wastewater network (exfiltration)
4. Existing wastewater discharges resulting from wet weather overflows from the wastewater network to land where the discharge does not enter water (permitted activity RMA s15) [1]
5. Wet weather overflows from a section of the wastewater network constructed after 31 October 2020[2] (new wastewater discharge pNRP definition)
6. Discharges from illegal cross connections
7. Wastewater overflows from private lateral pipes or gully traps.

Other wastewater discharges associated with the Hutt Valley and Wainuiomata wastewater system that are not included in the current application, but which are authorised by separate consents, are:

[1] Discharges to land that do not enter water are not within any of the categories of discharge contemplated by s 15 of the RMA and the pNRP does not include rules for discharges to land that do not enter water. Consequently, under section 15 RMA these discharges are permitted activities

[2] Such discharges do not meet the pNRP definition of 'existing wastewater discharge'

- The occasional wet weather overflow of untreated wastewater from the Point Arthur Pumping Station into the main outfall pipeline which discharges to Cook Strait at Bluff Point (WGN180461 [35592], granted 31 May 2019).
- The continuous discharge of fully treated wastewater from the Seaview WWTP which discharges via the main outfall pipeline to Cook Strait at Bluff Point.
- The occasional wet weather discharge of fully treated wastewater from the Seaview WWTP to Waiwhetū Stream via the Seaview outfall when the flow exceeds the capacity of the main outfall pipeline.
- The occasional discharge of fully treated wastewater from the Seaview WWTP to Waiwhetū Stream via the Seaview outfall when the main outfall pipeline is closed for repairs or maintenance.
- The occasional discharge of fully treated wastewater from the main outfall pipeline to the Coastal Marine Area when the main outfall pipeline is undergoing repairs or maintenance.

1.5 CURRENT CONSENTS

Since 1991 HCC has applied for and has been granted the following consents for discharges from the wastewater network.

Table 1-1: Summary of Consented Overflows in the Hutt Valley and Wainuiomata Catchments

Name	Purpose and Location	Term
Barber Grove Pump Station **Consent No. WGN960002 (02)**	To intermittently discharge wastewater to the Te Awa Kairangi / Hutt River.	14 July 1999 to 17 June 2019
Wellington Road Pump Station **Consent No. WGN010101 [20893]**	To discharge sewage overflows from the Wellington Road Pump Station to the Black Creek during extreme wet weather events.	24 July 2001 to 24 July 2019
Silverstream Storage Facility **Consent No. WGN96002 [23747]**	To intermittently discharge wastewater to the Te Awa Kairangi / Hutt River.	14 July 1999 to 17 June 2019
Malone Road **Consent No. WGN090321 [32525]**	To discharge untreated wastewater from the wastewater overflow structure at Malone Road, Lower Hutt to the Waiwhetū stream during and/or immediately after heavy rainfall events when the quantity of wastewater arriving at the Malone Road Pump Station exceeds the pumping capacity of the pump station and its storage capacity is reached.	12 April 2010 to 12 April 2025
Hinemoa Street **Consent No. WGN090321 [32526]**	To discharge untreated wastewater from the wastewater overflow structure at Hinemoa Street, Lower Hutt to the Waiwhetū stream during and/or immediately after heavy rainfall events when the quantity of wastewater arriving at the White Line East Pump Station exceeds the pumping capacity of the pump station and its storage capacity is reached.	12 April 2010 to 12 April 2025

Name	Purpose and Location	Term
Wainuiomata Pump Station Storage Tank **Consent No. WGN110494 [31241]**	To discharge screened and settled wastewater from the Wainuiomata pump station storage tank outlet structure to the Wainuiomata River during and /or after heavy rainfall events when the quantity of wastewater exceeds the storage capacity of the storm tank (2,500m^3).	19 December 2014 to 19 December 2029

In March 2019 Wellington Water lodged resource consent applications for the Barber Grove Pump Station, Wellington Road Pump Station and Silverstream Storage Facility discharges. Following discussions with Greater Wellington Regional Council (GWRC) staff it was agreed that Wellington Water would lodge a catchment wide resource consent application for all wastewater network overflows in the Hutt Valley and Wainuiomata catchments. That agreement has resulted in this application.

The RMA approach to consenting overflows in the 1990s and early 2000s was new and many of the early consents had very few conditions (when compared with current practice). The conditions on the existing consents have for example, very limited requirements for monitoring and reporting of overflow events. This has meant that historic information about the overflows is quite limited. Hydraulic modelling was also less well advanced at the time.

The intermittent nature of overflow discharges (and the wet weather events which usually precede them) tends to inhibit effective, regular monitoring of water quality. This is because the events are either of too short a duration (i.e. not enough time for monitoring personnel to collect samples) or they are so infrequent that they do not warrant regular monitoring at a level comparable to what would be undertaken for a continuous discharge. There are also health and safety issues associated with monitoring personnel collecting samples during heavy rainfall and flooding conditions.

1.6 RELATIONSHIP WITH THE STORMWATER NETWORK DISCHARGE CONSENT

In November 2018 Wellington Water was granted consent for the discharge of stormwater occasionally contaminated with wastewater into fresh or coastal water from the Wellington City Council (WCC), Porirua City Council (PCC), HCC and UHCC administered catchments. The stormwater consent is known as the Stage 1 stormwater consent and authorises the discharge of stormwater but also authorises wastewater network overflows to the stormwater network, which eventually reached freshwater or coastal water.

The stormwater consent only authorises the wastewater network overflows that discharge via the stormwater network. It does not cover any discharges from the wastewater network.

During preparation of this consent application and following discussions with GWRC staff, Wellington Water decided to include all wet weather wastewater network overflows, including those via the stormwater network, in this current application. Consequently, all the wet weather overflows from the wastewater network to the stormwater networks covered by the stormwater network discharge consent that are located in the Hutt Valley and Wainuiomata catchments are included in this application.

This will result in all conditions for the management of wet weather overflows being in the WNO consent, and not split between the wastewater network consent and the stormwater network consent.

The figure below illustrates the discharges that will be subject to the current wet weather overflow resource consent and those subject to the global stormwater resource consent.

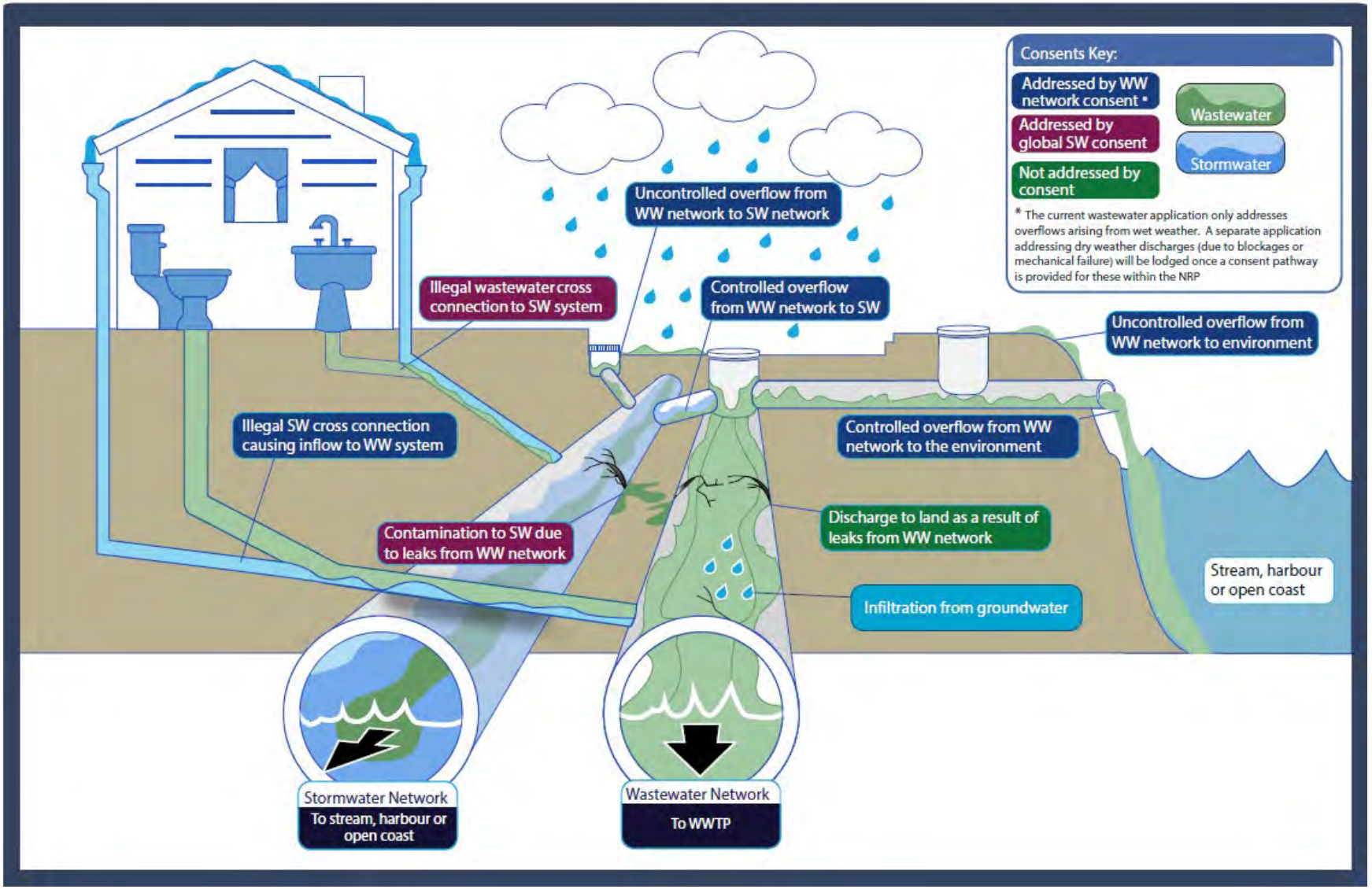

Figure 1-1: Diagrammatic representation which discharges are covered by the Wet Weather Overflow application and the Global Stormwater Consent application

1.7 CONSENT DURATION

A term of 35 years is sought for the catchment wide consents for the wastewater overflows from the Hutt Valley and Wainuiomata networks. The certainty of a long-term consent is required to provide sufficient time for the implementation of the various mitigation structures, processes and physical works that form part of this consent. This includes various mechanisms such as implementing Te Mana o te Wai, with a focus on mana whakahaere, prioritising sub-catchments, setting the containment standard, and establishing large and new work programmes designed to progressively reduce the frequency of wet weather overflows. These mechanisms need to be developed, implemented and funded through several financial planning cycles to be effective.

A long-term consent will enable the consent holder to focus on progressively reducing the frequency of overflows rather than having to keep focussing on reconsenting the overflows if short term consents are issued. In other words, momentum is likely to be lost while substantial effort is put into the re-consenting process. It will also give the Wastewater Network Collaborative Committee the time to successfully carry out its functions, particularly in monitoring the effectiveness of its decisions in progressively reducing the frequency of overflows which is the outcome sought by the proposed Natural Resource Plan (pNRP).

A shorter consent duration would make funding delivery of progressive improvement substantially more difficult and likely result in more modest aspirations being set under the consent (e.g. a less aspirational containment standard (see section 5.1.5)). Other risks that would arise from a shorter consent duration are:

1. Funding challenges and the capacity of the consent holder and mana whenua may mean it is not possible to address all sub-catchments during the consent term
2. Funding and capacity challenges may also mean that some sites that are identified in Schedules C and F of the pNRP are unable to be addressed during the consent term
3. That the significant 'ramping up' period, possibly 7 years, which will be needed to get the mechanisms proposed through this application up to speed, is likely to mean that only limited progress can be achieved by the end of a short duration consent
4. Further, that limited progress will then be at risk of being rendered obsolete by the conditions of the replacement consent, requiring the work to be re-visited.

These factors all create uncertainty for the consent holder which will undermine confidence in making long term investments and which does not reflect the status of the wastewater network as regionally significant infrastructure. A shorter consent duration would also not reflect the complexity and scale of work that is required to deliver Te Mana o te Wai across the catchment. The challenges are such that Wellington Water believes that a substantially different approach from that included in this application would be required if a short consent duration were to be imposed. The challenges with implementation and investment are discussed in more detail in sections 4 and 5.

Wellington Water appreciates that the value of a shorter term consent is that it ensures that approaches do not get locked in place and keep up-to-date with changes in good practice. To ensure the mechanisms under the consent are kept 'live', while providing the investment certainty for the consent holder, Wellington Water has proposed that several checks and balances are built into the consent, e.g. the requirements through proposed consent conditions to undertake six yearly review of the Wastewater Network Overflow Strategic Reduction Plan (Strategic Reduction Plan) and the investigation of an options to achieve or contribute to achieving Zero Overflow Aspirations[3].

[3] The aspirations of Mana Whenua as represented in Te Mahere Wai te Kāhui Taiao to remove all direct discharges of wastewater to freshwater and of the Whaitua Te Whanganui-a-Tara Committee for overflows to be completely removed unless in emergencies.

1.8 LODGEMENT PROGRAMME

As the catchment wide consents will include wastewater overflows to the stormwater network consented under the stormwater network discharge consent the applications for all the catchments (Hutt / Wainuiomata, Porirua, and Wellington City) will need to be lodged at least six months prior (three months with permission of GWRC) to the expiry of the stormwater network discharge consent (30 November 2023) to enable s124 of the RMA to apply.

1.9 THREE WATERS REFORM

The Three Waters Reforms are progressing at the same time as these resource consent applications. The final details of the Reforms are not yet known, and this Report and proposed conditions have been prepared on the basis that the wastewater network is council owned, and improvement works funded through the LTP process.

However, in broad terms the implications for these consents are anticipated to be:

1. The new water entity (currently known as "Entity C") will be responsible for the delivery of three waters services which includes the delivery of wastewater services from July 2024
2. The applications will be transferred to Entity C
3. Entity C will be the consent holder, responsible for the implementation of the consents and must comply with the conditions of the consents including the establishment and support of the Wastewater Network Collaborative Committee and the preparation and six yearly reviews of the WNO Reduction Plan
4. Entity C will be able to borrow to fund three waters infrastructure upgrades, both now and in the future
5. Three water assets will be transferred to Entity C, which will ultimately be owned by the councils as sole shareholders.

In summary, the application is not expected to change substantively when water reform is implemented (although it would be necessary to update the conditions as some as aspects of the planning and funding processes will be different if the reforms occur).

1.10 RMA SCHEDULE 4

Schedule 4 of the RMA sets out the information required to support an application for resource consent, including information required in an assessment of environmental effects and the matters that must be addressed by an assessment of environmental effects. The following table sets out the information relevant to this proposal required under Schedule 4 and links it to the relevant Part of the application documentation that addresses this information requirement.

Table 1-2: RMA Schedule 4 Information Requirements

Schedule 4 Information	Relevant Application Section
Description of the activity	Part 1 Report Sections 2 and 3
Description of the site at which the activity is to occur	Part 1 Report Section 2 Part 2 Report
Full name and address of each owner or occupier of the site	Part 1 Report Application Forms
Description of any other activities that are part of the proposal to which the application relates	Part 1 Report Sections 1 and 2
Description of any other resource consents required for the proposal to which the application relates	Part 1 Report Section 1

Schedule 4 Information	Relevant Application Section
An assessment of the activity against the matters set out in Part 2	Part 1 Report Section 9
An assessment of the activity against any relevant provisions of a document referred to in section 104(1)(b) including (a) any relevant objectives, policies, or rules in a document; and (b) any relevant requirements, conditions, or permissions in any rules in a document; and (c) any other relevant requirements in a document (for example, in a national environmental standard or other regulations).	Part 1 Report Section 9 Appendix 1 Planning Assessment
An assessment of the activity's effects on the environment must include the following information: (a) if it is likely that the activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity (b) an assessment of the actual or potential effect on the environment of the activity (c) if the activity includes the use of hazardous installations, an assessment of any risks to the environment that are likely to arise from such use: (d) if the activity includes the discharge of any contaminant, a description of the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and any possible alternative methods of discharge, including discharge into any other receiving environment.	Part 1 Report Sections 7 and 9 Part 2 Report
An assessment of the activity's actual or potential effects on the environment that addresses: (a) any effect on those in the neighbourhood and, where relevant, the wider community, including any social, economic, or cultural effects: (b) any physical effect on the locality, including any landscape and visual effects: (c) any effect on ecosystems, including effects on plants or animals and any physical disturbance of habitats in the vicinity: (d) any effect on natural and physical resources having aesthetic, recreational, scientific, historical, spiritual, or cultural value, or other special value, for present or future generations: (e) any discharge of contaminants into the environment, including any unreasonable emission of noise, and options for the treatment and disposal of contaminants: (f) any risk to the neighbourhood, the wider community, or the environment through natural hazards or hazardous installations.	Part 2 Report
Description of the mitigation measures (including safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual or potential effect.	Part 1 Report Sections 4 and 5 Proposed Consent Conditions
Identification of the persons affected by the activity, any consultation undertaken, and any response to the views of any person consulted.	Part 1 Report Section 10

2.0 THE WASTEWATER NETWORK

2.1 OVERVIEW AND RESPONSIBILITIES

Section 11A of the Local Government Act 2002 (LGA) requires local authorities to consider the contribution that 'core services' make to their communities. Wastewater is a core service in terms of the LGA.

HCC and UHCC own all wastewater pipelines and other parts of the wastewater system up to and including the connection between the council pipeline and the private lateral. All drains, pipework and plumbing upstream of that connection are owned by and are the responsibility of the property owner. This consent only applies to overflows directly from assets owned by the two councils.

As a Council-Controlled Organisation (CCO), Wellington Water is responsible for three waters management services, including operation and maintenance of assets owned by its client councils (those relevant to this application in bold):

- Greater Wellington Regional Council (bulk water only)
- Wellington City Council
- Porirua City Council
- South Wairarapa District Council
- **Hutt City Council**, and
- **Upper Hutt City Council**.

2.2 WASTEWATER SYSTEM ASSETS

The following Council assets enable the collection, treatment, and disposal of wastewater in Hutt Valley and Wainuiomata:

1. Local network reticulation, including pipes, manholes and other similar structures which receive flow from private lateral connections
2. Pumping stations where flow under gravity is not possible
3. Storage tanks, designed primarily for off-line storage of peak flows and also used for maintenance purposes from time to time
4. Trunk wastewater pipelines – the main sewer arteries conveying wastewater collected from the local network reticulation to the wastewater treatment plant
5. Seaview wastewater treatment plant – treat raw wastewater to specified standards to reduce its impact on the environment, cultural values and public health risk
6. Treated wastewater discharge or disposal – discharge of the treated wastewater to Raukawa Moana / Cook Strait through a submarine outfall at Bluff Point (south of the Pencarrow lighthouse)
7. Bio-solids are treated and disposed of at the Silverstream landfill.

These assets are shown diagrammatically in Figure 2-1, and the geographic extent of the network is shown in Figure 2-4.

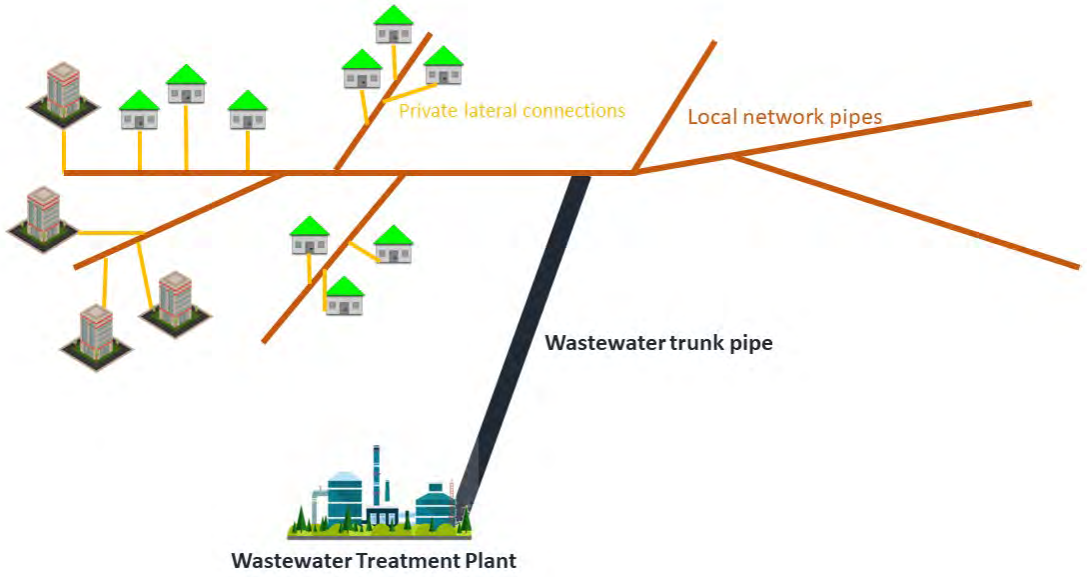

Figure 2-1: Diagrammatic representation of wastewater system (Hydraulic Analysis Ltd. 2022)

The trunk network comprises pipes 300mm in diameter or greater and the local network comprises pipes typically of 150 mm and 225mm in diameter.

2.3 WAINUIOMATA AND HUTT VALLEY CATCHMENTS OVERVIEW

The HCC network (including Wainuiomata) comprises 570 kilometres of underground pipeline, 28 pumping stations, with Constructed Overflow Points (COPs), and five network COPs. The wastewater network and pumping stations were mainly built between 1925 and 1980.

The UHCC wastewater network includes 226 km of underground pipeline and 17 pumping stations, and three COPs. The Upper Hutt network is linked to and feeds into the trunk wastewater system for delivery to the Seaview WWTP.

The joint venture wastewater assets in the catchment are jointly owned and funded by the two Councils, including approximately 92 km of delivery pipelines, 20 pumping stations, the Seaview WWTP and the 1.8 km treated outfall pipeline.

The catchment also includes a large extent of privately owned wastewater pipes that connect properties to the public wastewater network.

2.4 DRIVERS OF FUTURE DEMAND

The principal drivers of demand for wastewater services are:

1. The resident population
2. The transient population (commuters / tourism)
3. Development – zoning and rezoning (Residential/Commercial/Industrial)
4. Water Usage
5. Trade waste from other sources (e.g. landfill leachate)
6. Climate change – increased rainfall and sea level rise
7. Infiltration and inflow - the extent of rainwater entry to the wastewater system through stormwater inflow and groundwater infiltration
8. Network deterioration (aging).

For peak demand, relative to wet weather, the last three factors in the list are particularly important drivers. However, demand associated with all of these factors has been incorporated into the modelling that has informed this application and the assessment of effects. It will also be incorporated into future modelling undertaken as part of the implementation of this consent (see Section 6.1).

While not a primary driver of peak wet weather related demand, population growth is a general driver of demand for wastewater services. Population growth data has therefore been incorporated into our modelling, and this input to the modelling will continue to be updated as population projections evolve over time.

Wellington Water and the four client city councils all employ a consulting company called Sense Partners to model their local area's statistics and produce what is deemed the most likely forecast scenario for planning purposes.

Demographic changes, such as birth, death and migration rates are applied to the base population. At the same time, scrutiny of urban development drivers is undertaken (residential development opportunities, vacancy rates etc.). The combination of varied assumptions about these inputs results in forecast population and households by type.

The population supplied by the drinking water network of HCC, UHCC, Porirua City Council and Wellington City Council is estimated at approximately 420,000 as at 2018. Approximately one third of that population is located within the HCC and UHCC wastewater catchments. Figure 2-2 shows the projected count of usual residents estimated by the Sense Partners forecast completed in 2021. No adjustment has been made to account for rural populations not served by the wastewater network. It can be seen that moderate growth is predicted across the region.

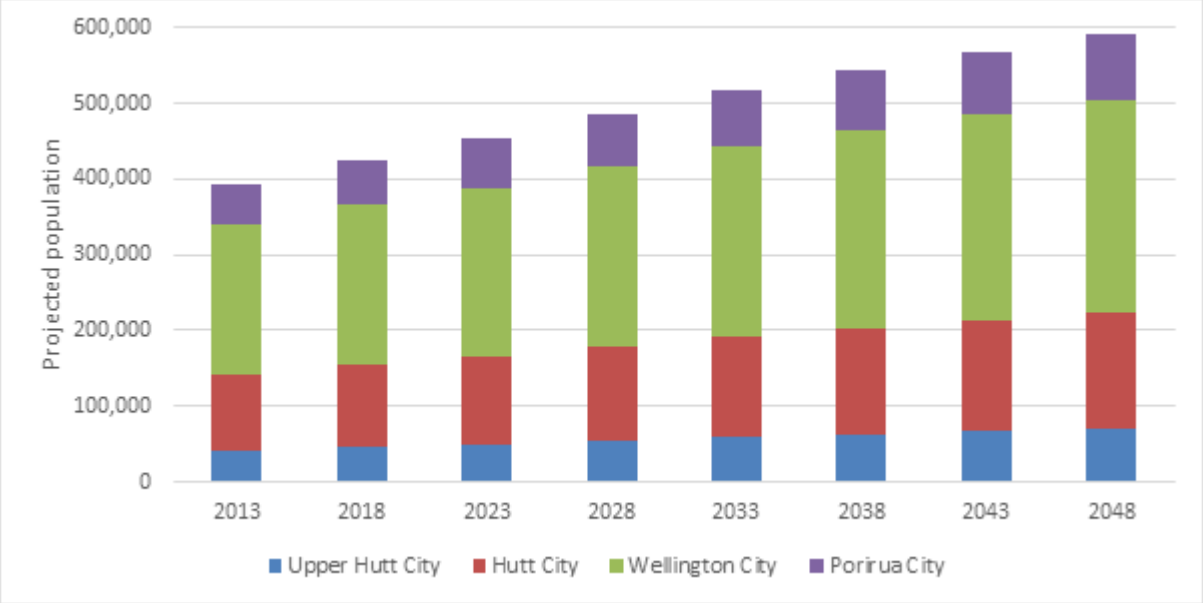

Figure 2-2 Estimated urban area population projections (Sense Partner Forecast 2021, median projection of usual residents)

Based on the above Sense Partners estimates, our modelling has adopted the following population estimates for the Lower Hutt and Upper Hutt catchments serviced by the Seaview WWTP, including adjustments for the unserviced rural population.

Table 2-1: Estimated Residential Population Projections for Wastewater Network Serviced by Seaview WWTP (Seaview Strategic Model System Performance Assessment, HAL, 2022)

Nominal Year	Seaview Strategic Model: Adopted Residential Populations			
	Lower Hutt	Wainuiomata	Upper Hutt	Total
2023	95,000	19,200	48,800	163,000
2030	107,300	20,700	55,400	183,400
2040	121,200	21,300	63,500	206,000
2050	131,100	22,400	70,500	224,000
2060	140,500	23,400	77,500	241,400
2070	149,900	24,400	84,500	258,800

2.5 PERFORMANCE OF THE HUTT VALLEY AND WAINUIOMATA WASTEWATER NETWORK

Hydraulic Analysis Ltd was commissioned by Wellington Water to combine models developed for Upper Hutt, Lower Hutt and Wainuiomata to provide a Systems Performance Assessment (SPA) for the entire area serviced by the Seaview WWTP.

The study objective was to provide an assessment of current and future performance issues at a strategic level, with particular emphasis on key features such as the Silverstream Storage Facility, major pump stations at Ava, Barber Grove, and Wise Park and the Wastewater Treatment Plant (WWTP).

It is intended also that the SPA will inform the future decision making about how often it is acceptable for the network to overflow and what are the preferred solutions to reduce the frequency of wet weather overflows.

Output from the SPA was used in this application and in particular the Part 2 AEE, in addition to actual monitoring data, to predict the likely location, volume and frequency of overflows from the wastewater networks.

2.6 CAUSES OF WASTEWATER NETWORK OVERFLOWS

The majority of the wastewater network was originally designed to contain and convey four to five times[4] the average dry weather flow to allow for entry of groundwater and stormwater into the system. This occurs during wet weather when:

1. groundwater[5] enters private and Council pipes through cracks, leaking joints and other faults (infiltration)
2. rainfall from roofs, and yards in some cases, is incorrectly directed to the wastewater system instead of the stormwater system (inflow) or
3. rainfall runoff from ground surfaces enters surface level or low-level gully traps or external wastewater drains (inflow).

Together, these are called inflow and infiltration (I&I).

Some areas of the network have significantly more groundwater and stormwater inflows entering the system than the original design allows for. This is typical of other towns and cities in New Zealand, and internationally. In wet weather, the capacity of some of these pipes or pump stations is exceeded, leading to occasional overflows of dilute wastewater. In addition, dry weather overflows occur from time to time due to pipe blockage, pipe collapse or pump station failure.

[4] New networks are designed to carry around six times the flow of wastewater
[5] Groundwater infiltration can occur in dry weather conditions

Network overflows occur at either a COP or at an uncontrolled overflow point (typically a surcharging manhole or gully trap). These different kinds of overflows are further described in the next sections of this report. Storage tanks located at Silverstream, Wainuiomata, and Seaview have increased the capacity in the network to manage excess wastewater flows, but overflows may still occur when the storage capacity is exceeded.

2.7 CONTROLLED OVERFLOW POINTS

COPs allow wastewater to exit the wastewater network through an overflow arrangement usually located within the network's reticulation system. These arrangements are typically weirs or pipes set to a designated height to provide a controlled discharge from the wastewater network during major failures or when the network is overwhelmed by wet weather flows (see Figure 2-3).

Figure 2-3 : COP showing high level overflow to stormwater (arrow), and water level monitor.

COPs are also commonly located at or near wastewater pumping stations and are designed to provide relief from power failures, pump breakdowns, network failure (in rising mains), wet weather volumes beyond the pump station capacities, or a catastrophic event like a major seismic event (noting that this application is only for the wet weather situations).

A pump station COP should only operate as a result of peak wet weather flows exceeding the pump station capacity, because most potential overflows are prevented by redundancies built into the pump station. These include the ability to store inflows in the event of short-term pump station outages, typically with enough capacity to store between 1 and 4 hours of average dry weather flow. All pump stations in the Hutt Valley and Wainuiomata catchments are fitted with alarm systems (SCADA) designed to provide automated warning to operators of equipment failure and early warning of rising wastewater levels.

Wastewater overflows from COPs are typically channelled into waterways including freshwater streams, rivers, and coastal environments. COPs have been designed to mitigate the risk of overflows to private properties, buildings, footpaths, and roadways. Historically, they have been deliberately directed to water because that has a much lower public health risk than a discharge to land.

Eighty-three overflows from COPs have been identified within the Hutt Valley and Wainuiomata wastewater network. Of these, 55 are associated with pump stations (Type 1). The remaining 28 are overflows from network relief points (Type 2). 43 of the overflows from COPs discharge directly to a

freshwater stream or river, 12 discharge directly to coastal water, and 28 are into the stormwater network for conveyance to a freshwater or coastal water body.

A list of overflows from COPs in the Hutt Valley and Wainuiomata network and their respective receiving environments is provided in Table 1-1. Their location is shown in overview in Figure 2-4 and in more detail in Appendix A of the Part 2 Report.

Figure 2-4: Overflows from constructed overflow points within the Hutt Valley and Wainuiomata wastewater network

Table 2-2: COPSs and Overflow Characteristics in the Hutt Valley and Wainuiomata Wastewater Networks

Overflow ID	Catchment	Owner	ASSET_ID	OF Code	Overflow Type	Location	Annual Mean Overflow Volume (m^3)		Annual Mean Overflow Frequency		Source of information	Direct Receiving Environment	Indirect Receiving Environment
							Volume	Range	Number	Range			
1	Korokoro	HCC	741001P00192	COF_SW	1	Kereru	-	Low	-	Low	Wellington Water SCADA 2016 to 2020	Unnamed stream	Te Awa Kairangi / Hutt River
2	Korokoro	HCC	741001P00227	COF_SW	1	Maungaraki Rd	-	Low	-	Low	Wellington Water SCADA 2016 to 2020	Unnamed stream	Korokoro Stream
3	Korokoro	HCC	741001P00195	COF_SW	1	Titiromoana Rd	0	Low	0	Low	Wellington Water SCADA 2013-2020	Unnamed stream	Korokoro Stream
4	Waiwhetū	HCC	741001P00189	COF_FW	1	Randwick Rd	-	Low	-	Low	Wellington Water SCADA 2016 to 2020	Waiwhetū Stream	Hutt Estuary
5	Waiwhetū	HCC	710088R00543	COF_FW	2	WET WELL MH Chamber	-	Low	-	Low	not monitored	Waiwhetū Stream	Hutt Estuary
6	Waiwhetū	HCC	710025R00412	COF_SW	2	3 Rossiter Avenue	-	Low	-	Low	not monitored	Waiwhetū Stream	Hutt Estuary
7	Waiwhetū	HCC	841001P00212	COF_SW	1	Malone Road	500	Low	<1	Low	Wellington Water SCADA 2013-2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Waiwhetū Stream	Hutt Estuary
8	Waiwhetū	HCC	841001P00218	COF_SW	1	Rossiter Ave	-	Low	13	High	Wellington Water SCADA 2013-2020	Waiwhetū Stream	Hutt Estuary
9	Waiwhetū	HCC	741001P00288	COF_SW	1	Laura Fergusson	-	Low	-	Low	Wellington Water SCADA 2016 to 2020	Waiwhetū Stream	Hutt Estuary
10	Waiwhetū	HCC	741001P00188	COF_SW	1	Massey Ave	-	Low	-	Low	Wellington Water SCADA 2016 to 2020	Waiwhetū Stream	Hutt Estuary
11	Waiwhetū	HCC	841001P00224	COF_SW	1	Hinemoa St	1,600	Medium	4	Medium	Wellington Water SCADA 2014 to 2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Waiwhetū Stream	Hutt Estuary
12	Waiwhetū	HCC	841001P00222	COF_SW	1	Wilford St	-	Low	-	Low	Wellington Water SCADA 2016 to 2020	Waiwhetū Stream	Hutt Estuary
13	Hutt	UHCC	SPS_ASHINGTON	COF_SW	1	Ashington Rd	-	Low	-	Low	Wellington Water SCADA 2016 to 2020	Hulls Creek	Te Awa Kairangi / Hutt River
14	Hutt	DBO	841001P00213	COF_CW	1	Marine Parade	<5	Low	<1	Low	Wellington Water SCADA 2013-2016, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Petone Beach	Wellington Harbour

Overflow ID	Catchment	Owner	ASSET_ID	OF Code	Overflow Type	Location	Annual Mean Overflow Volume (m^3)		Annual Mean Overflow Frequency		Source of information	Direct Receiving Environment	Indirect Receiving Environment
							Volume	Range	Number	Range			
15	Hutt	HCC	710002R00176	COF_FW	2	St Albans Grove	<5	Low	<1	Low	not monitored	Te Awa Kairangi / Hutt River	Wellington Harbour
16	Hutt	HCC	710011R01018	COF_FW	2	Jackson Street	<5	Low	<1	Low	not monitored	Petone Beach	Wellington Harbour
17	Hutt	DBO	841001P00220	COF_FW	1	Tennyson Street	<5	Low	<1	Low	Wellington Water SCADA 2008-2016, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Te Mome Stream	Hutt Estuary
18	Hutt	DBO	841001P00206	COF_FW	1	Barber Grove	15,300	High	4	Medium	Wellington Water Scada 2003 to 2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Te Awa Kairangi / Hutt River	Wellington Harbour
19	Hutt	UHCC	SPS_AKATARAWA	COF_FW	1	Birchville	<5	Low	<1	Low	Wellington Water SCADA 2013-2016, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Te Awa Kairangi / Hutt River	Wellington Harbour
20	Hutt	UHCC	SPS_49BRIDGE	COF_FW	1	Birchville	<5	Low	<1	Low	Wellington Water SCADA 2013-2016, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Te Awa Kairangi / Hutt River	Wellington Harbour
21	Hutt	UHCC	SPS_621MAINRDNT	COF_FW	1	Te Marua	<5	Low	<1	Low	Wellington Water SCADA 2013-2016	Mangaroa River	Te Awa Kairangi / Hutt River
22	Hutt	UHCC	SPS_65BRIDGE	COF_FW	1	Birchville	<5	Low	<1	Low	Wellington Water SCADA 2013-2016	Te Awa Kairangi / Hutt River	Wellington Harbour
23	Hutt	UHCC	SPS_BLACKBEECH	COF_FW	1	Birchville	<5	Low	<1	Low	Wellington Water SCADA 2013-2016	Te Awa Kairangi / Hutt River	Wellington Harbour
24	Hutt	UHCC	MAIN 0542SM	COF_FW	2	Birchville	0	Low	0	Low	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Te Awa Kairangi / Hutt River	Wellington Harbour
25	Hutt	HVWS	SPS_8WEIR	COF_FW	1	Silverstream	<5	Low	<1	Low	Wellington Water SCADA 2013-2016	Te Awa Kairangi / Hutt River	Wellington Harbour
26	Hutt	UHCC	SPS_39RIVERSTONE	COF_FW	1	Riverstone Drive	<5	Low	<1	Low	Wellington Water SCADA 2013-2016	Te Awa Kairangi / Hutt River	Wellington Harbour

Overflow ID	Catchment	Owner	ASSET_ID	OF Code	Overflow Type	Location	Annual Mean Overflow Volume (m^3)		Annual Mean Overflow Frequency		Source of information	Direct Receiving Environment	Indirect Receiving Environment
							Volume	Range	Number	Range			
27	Hutt	UHCC	SPS_17OPAL	COF_FW	1	Timberlea	<5	Low	<1	Low	Wellington Water SCADA 2016 to 2020	Te Awa Kairangi / Hutt River	Wellington Harbour
28	Hutt	DBO	890019R00186	COF_FW	2	Silverstream storage tank	32,200	High	3	Medium	Wellington Water SCADA 2006 to 2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Te Awa Kairangi / Hutt River	Wellington Harbour
29	Hutt	DBO	741001P00204	COF_FW	1	Mary Huse Gr	235	Low	<1	Low	Wellington Water SCADA 2003 to 2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Te Awa Kairangi / Hutt River	Wellington Harbour
30	Hutt	HCC	741001P00193	COF_SW	1	George Gee Dv	<5	Low	<1	Low	Wellington Water SCADA 2016 to 2020	unnamed stream	Wellington Harbour
31	Hutt	HCC	741001P00191	COF_SW	1	Victoria St	<5	Low	<1	Low	Wellington Water SCADA 2016 to 2020	Te Awa Kairangi / Hutt River	Wellington Harbour
32	Hutt	DBO	841001P00210	COF_SW	1	Esplanade West	<5	Low	<1	Low	Wellington Water SCADA 2013-2016, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Petone Beach	Wellington Harbour
33	Hutt	DBO	841001P00205	COF_SW	1	Ava	<5	Low	<1	Low	Wellington Water SCADA 2016 to 2020	Te Awa Kairangi / Hutt River	Wellington Harbour
34	Hutt	DBO	841001P00216	COF_SW	1	Regent St	<5	Low	<1	Low	Wellington Water SCADA 2016 to 2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Petone Beach	Wellington Harbour
35	Hutt	DBO	841001P00208	COF_SW	1	Esplanade Central	<5	Low	<1	Low	Wellington Water SCADA 2003 to 2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Petone Beach	Wellington Harbour
36	Hutt	HVWS	SPS_TOTARAPARK	COF_SW	1	Totara Park	<5	Low	<1	Low	Wellington Water SCADA 2016 to 2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Te Awa Kairangi / Hutt River	Wellington Harbour
37	Hutt	UHCC	WEIR0008SM	COF_SW	1	Weir Grove	-	Low	-	Low	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Hulls Creek	Te Awa Kairangi / Hutt River
38	Hutt	UHCC	SPS_RIVER123	COF_SW	1	Riverstone Drive	<5	Low	<1	Low	Wellington Water SCADA 2016 to 2020	Te Awa Kairangi / Hutt River	Wellington Harbour

Overflow ID	Catchment	Owner	ASSET_ID	OF Code	Overflow Type	Location	Annual Mean Overflow Volume (m^3)		Annual Mean Overflow Frequency		Source of information	Direct Receiving Environment	Indirect Receiving Environment
							Volume	Range	Number	Range			
39	Hutt	UHCC	SPS_RIVER123/1	COF_SW	1	Riverstone Drive	<5	Low	<1	Low	Wellington Water SCADA 2016 to 2020	Te Awa Kairangi / Hutt River	Wellington Harbour
40	Mangaroa	UHCC	SPS_20MAYMORN	COF_FW	1	Te Marua	1,800	Medium	6	Medium	Wellington Water SCADA 2016 to 2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Unnamed stream	Mangaroa River
41	Mangaroa	UHCC	SPS_191PLATEAU	COF_FW	1	Te Marua	<5	Low	<1	Low	Wellington Water SCADA 2016 to 2020	Unnamed stream	Mangaroa River
42	Mangaroa	UHCC	SPS_63PLATEAU	COF_FW	1	Te Marua	<5	Low	<1	Low	Wellington Water SCADA 2016 to 2020	Unnamed stream	Mangaroa River
43	Mangaroa	UHCC	SPS_245PLATEAU	COF_FW	1	Te Marua	<5	Low	<1	Low	Wellington Water SCADA 2016 to 2020	Unnamed stream	Mangaroa River
44	Mangaroa	UHCC	SPS_1176MAYMORN	COF_FW	1	Maymorn	400	Low	1	Low	Wellington Water SCADA 2016 to 2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Unnamed stream	Mangaroa River
45	Eastbourne	HCC	741001P00200	COF_CW	1	Sorrento Bay	<5	Low	<1	Low	Wellington Water SCADA 2013-2016	Sorrento Bay	Wellington Harbour
46	Eastbourne	HCC	741001P00196	COF_SW	1	Howard Rd	<5	Low	<1	Low	Wellington Water SCADA 2016 to 2020	Sorrento Bay	Wellington Harbour
47	Eastbourne	HCC	741001P00197	COF_CW	1	Cheviot Rd	<5	Low	<1	Low	Wellington Water SCADA 2016 to 2020	Lowry Bay	Wellington Harbour
48	Eastbourne	HCC	741001P00198	COF_CW	1	Mahina Bay	<5	Low	<1	Low	Wellington Water SCADA 2013-2016, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Mahina Bay	Wellington Harbour
49	Eastbourne	DBO	841001P00225	COF_CW	1	York Bay	<5	Low	<1	Low	Wellington Water SCADA 2013-2016, Seaview Strategic Wastewater Model System Performance Assessment March 2022	York Bay	Wellington Harbour
50	Eastbourne	DBO	841001P00207	COF_CW	1	Days Bay	200	Low	2	Low	Wellington Water SCADA 2013-2016, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Days Bay	Wellington Harbour
51	Eastbourne	HCC	741001P00201	COF_CW	1	Williams Park	0	Low	0	Low	Wellington Water SCADA 2013-2016, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Days Bay	Wellington Harbour
52	Eastbourne	HCC	841001P00217	COF_SW	1	Rona Bay	0	Low	0	Low	Wellington Water SCADA 2013-2016	Rona Bay	Wellington Harbour

Overflow ID	Catchment	Owner	ASSET_ID	OF Code	Overflow Type	Location	Annual Mean Overflow Volume (m^3)		Annual Mean Overflow Frequency		Source of information	Direct Receiving Environment	Indirect Receiving Environment
							Volume	Range	Number	Range			
53	Eastbourne	HCC	841001P00215	COF_CW	1	Pukatea Street	0	Low	0	Low	Wellington Water SCADA 2013-2016, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Robinson Bay	Wellington Harbour
54	Eastbourne	HCC	710013R01087	COF_CW	2	Pukatea Street	<5	Low	<1	Low	Wellington Water SCADA 2016 to 2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Robinson Bay	Wellington Harbour
55	Black	HCC	710002R00866	COF_FW	2	15 Heath Street	200	Low	2	Low	Wellington Water OV-Gauge 2016 to 2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Black Creek	Wainuiomata River
56	Black	HCC	710037R00896	COF_FW	2	Main Road	5,498	Medium	12	High	Wellington Water OV-Gauge 2016 to 2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Black Creek	Wainuiomata River
57	Black	HCC	710011R00874	COF_FW	2	38 Hyde Street	100	Low	1	Low	Wellington Water OV-Gauge 2016 to 2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Black Creek	Wainuiomata River
58	Black	HCC	710002R00936	COF_FW	2	23 Rowe Parade	1,600	Medium	4	Medium	Wellington Water OV-Gauge 2016 to 2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Black Creek	Wainuiomata River
59	Black	DBO	841001P00230	COF_FW	1	Wellington Rd	400	Low	1	Low	Wellington Water SCADA 2003 to 2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Black Creek	Wainuiomata River
60	Black	HCC	710035R00909	COF_SW	2	Moohan St	-	Low	-	Low	not monitored	Black Creek	Wainuiomata River
61	Black	HCC	710013R00855	COF_SW	2	50 Fraser Street	800	Medium	4	Medium	Wellington Water OV-Gauge 2016 to 2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Black Creek	Wainuiomata River
62	Black	DBO	841001P00231	COF_SW	1	Wise Park	<20	Low	<1	Low	Wellington Water SCADA 2004 to 2016	Black Creek	Wainuiomata River
63	Wainuiomata	HCC	741001P00203	COF_FW	1	Wood St	0	Low	0	Low	Wellington Water SCADA 2013-2016, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Wainuiomata River	Wainuiomata Estuary
64	Wainuiomata	DBO	841001P00232	COF_FW	1	Wainuiomata Storage Tank	17,600	High	3	Medium	Wellington Water SCADA 2002 to 2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Wainuiomata River	Wainuiomata Estuary
65	Wainuiomata	HCC	710001R00920	COF_SW	2	Parenga	-	Low	-	Low	not monitored	Wainuiomata River	Wainuiomata Estuary

Overflow ID	Catchment	Owner	ASSET_ID	OF Code	Overflow Type	Location	Annual Mean Overflow Volume (m^3)		Annual Mean Overflow Frequency		Source of information	Direct Receiving Environment	Indirect Receiving Environment
							Volume	Range	Number	Range			
66	Wainuiomata	HCC	741001P00202	COF_SW	1	Ngaturi Grove	<5	Low	<1	Low	Wellington Water SCADA 2016 to 2020, Seaview Strategic Wastewater Model System Performance Assessment March 2022	Wainuiomata River	Wainuiomata Estuary
67	Hutt	HCC	710090R00543_PS	COF	1	Seaview Rd	800	Medium	3	Medium	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Te Awa Kairangi / Hutt River	Wellington Harbour
68	Black	HCC	260011P00137	COF	1	Wainuiomata Landfill	-	Low	0	Low	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Black Creek	Wainuiomata River
69	Hutt	HCC	890001R00548	COF	2	155 Hutt Park Rd	1000	Medium	2	Low	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Te Awa Kairangi / Hutt River	Wellington Harbour
70	Hutt	HCC	710064R00311	COF	2	2 Park Gr	-	Low	0	Low	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Te Awa Kairangi / Hutt River	Wellington Harbour
71	Hutt	HCC	710010R00121	COF	2	62 Wakefield St	-	Low	0	Low	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Te Awa Kairangi / Hutt River	Wellington Harbour
72	Waiwhetū	HCC	710026R00756	COF	2	8 Kerkwall Dr	-	Low	0	Low	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Waiwhetū Stream	Hutt Estuary
73	Waiwhetū	HCC	810013R00546	COF	2	Bell Rd Sth	0	Low	1	Low	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Waiwhetū Stream	Hutt Estuary
74	Hutt	HCC	841001P00209	COF	2	Espl East	0	Low	0	Low	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Petone Beach	Wellington Harbour
75	Hutt	HCC	260035P00233	COF	2	Silverstream Landfill	0	Low	0	Low	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Te Awa Kairangi / Hutt River	Wellington Harbour
76	Hutt	HCC	810006R00185	COF	2	Melling Station	0	Low	0	Low	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Te Awa Kairangi / Hutt River	Wellington Harbour
77	Eastbourne	HCC	710053R01108	COF	1	Point Arthur PS	0	Low	0	Low	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Robinson Bay	Wellington Harbour
78	Waiwhetū	HCC	710016R00377	COF	2	Seddon St	500	Low	3	Medium	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Waiwhetū Stream	Hutt Estuary
79	Black	HCC	710003R00847	COF	2	20 Dunn St	0	Low	0	Low	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Black Creek	Wainuomata River

Overflow ID	Catchment	Owner	ASSET_ID	OF Code	Overflow Type	Location	Annual Mean Overflow Volume (m^3)		Annual Mean Overflow Frequency		Source of information	Direct Receiving Environment	Indirect Receiving Environment
							Volume	Range	Number	Range			
80	Black	HCC	710015R00853	COF	2	29 Fitzherbert	0	Low	0	Low	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Black Creek	Wainuomata River
81	Black	HCC	710003R00828	COF	2	15 Best St	0	Low	0	Low	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Black Creek	Wainuomata River
82	Eastbourne	HCC	DUMMYNODE_16	COF	2	Pt Arthur	0	Low	0	Low	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Robinson Bay	Wellington Harbour
83	Black	HCC	Home	COF	2	21 Stanley St	200	Low	3	Medium	Seaview Strategic Wastewater Model System Performance Assessment March 2022	Black Creek	Wainuomata River

Notes: No shading indicates low range, light pink indicates medium range, and dark pink indicates high range

"-" indicates no data

2.8 UNCONTROLLED OVERFLOWS

Uncontrolled (sometimes called unconstructed) overflows are overflows that occur in the wastewater network but were not designed or constructed to discharge directly into a water body or the stormwater system.

These overflows can be caused by similar failures or events as those for overflows from COPs, but they may not be contained or discharged to isolated locations. The most common manifestation of an uncontrolled overflow is when a manhole surcharges, lifting off the manhole lid, and discharging into the area surrounding the manhole (see Figure 2-5). This can cause a significant public health risk through direct human contact with wastewater (which is, by design, less likely to occur with overflows from COPs).

The locations of uncontrolled overflows are often not known in advance. Models can predict the potential occurrence of uncontrolled overflows, but they must be verified through monitoring or other visual evidence given the accuracy level of models. Uncontrolled overflow points expected to overflow frequently are sometimes converted to a COP to ensure that they discharge in a manner that minimises the public health risk.

Figure 2-5: View of an uncontrolled overflow from a manhole into a nearby kerb and channel

Uncontrolled overflows from the Hutt Valley and Wainuiomata wastewater networks are generally caused by blockages resulting from fat, roots or sanitary items becoming stuck in the wastewater network. A full blockage will result in a dry weather discharge (though sometimes it first becomes apparent in wet weather). A partial blockage is a common contributor to wet weather overflows. Uncontrolled overflows can also result from excess infiltration and inflow of stormwater into the wastewater network during wet weather, however, this situation is relatively infrequent in the Hutt Valley and Wainuiomata catchments because these networks are well served by COPs.

3.0 MANAGEMENT OF WET WEATHER OVERFLOWS

3.1 MONITORING OF CONTROLLED OVERFLOW POINTS

Wellington Water currently monitors wastewater overflows at selected locations to achieve the following:

1. Determination of start time, stop time and in some cases estimated volume of overflows for the purposes of regulatory reporting to GWRC
2. Understanding the performance of the network to inform operational response and identify where improvement works are required
3. Notification to members of the public and organisations who want to know when wastewater is discharged to the environment.

3.1.1 Pump stations

All COPs at wastewater pump stations are equipped with telemetry monitoring equipment which monitors the wet-well level. Data is transmitted to the central Wellington Water monitoring SCADA system and is used to monitor pump station performance.

An impending overflow event is detected via the use of a sensor in the wet well that sends an alarm to a duty operator via SMS (text message). The overflow pipes are generally not configured with flow metering equipment as the pipes do not have flow in them except when discharging to the environment, so it is not practicable to record the total volume of the discharge. However, by using the recorded overflow event duration, it is possible to estimate the flow rate and the total volume based on the pump station's pump flow rates.

3.1.2 Network overflow points

Telemetered monitoring equipment has been installed at a selected number of network constructed overflow points sites. Currently six network overflow sites are monitored, five in Wainuiomata and one in Waterloo. The following factors are considered when retaining and selecting new network overflow sites for monitoring:

1. Whether sites are known to have frequent overflows during wet or dry weather
2. Consideration of receiving environment risks such as recreational use, environmentally sensitive or cultural significance (indicated by culturally significant sites in the PNRP spatial data)
3. Locations that may require monitoring to better understand network performance, resolve maintenance issues, performance proving of new infrastructure, understanding of issues to reduce wastewater overflows, investigation of suspected frequent network overflows (e.g. from modelling results)
4. Available budgets.

An annual review of the network overflow monitoring is undertaken by the Wellington Water Network Engineering Team to ensure the monitoring programme is effective and the current monitoring sites are of highest priority for the available budget.

The monitoring equipment detects when the overflow event starts and sends a notification via SMS and email to designated staff within Wellington Water. The monitoring equipment detects when the overflow event stops and sends a second alert to designated staff, with a six hour delay following the last discharge. This information is saved to Wellington Water's Data Warehouse and also available on a web based platform.

3.2 RESPONDING TO AND ASSESSING OVERFLOW DISCHARGES

Wellington Water's processes for responding to overflows vary depending on how we find out about them and the cause and the type of overflow, as set out in the following documents:

1. Wastewater overflows into the stormwater network management and procedures plan
2. Wastewater network overflows response plan.

We are currently rationalising our approaches so will provide more complete information prior to the hearing.

3.3 PREVENTATIVE AND REACTIVE MAINTENANCE

Preventative maintenance of the wastewater network includes a regular inspection, cleaning and servicing regime programmed by asset management systems and with consideration to available budgets. Areas of the wastewater network where preventative maintenance for overflows is undertaken include:

1. Pump stations
2. Standby generators
3. Jet cleaning of the piped network
4. Telemetry – Supervisory Control and Data Acquisition (SCADA)
5. Condition assessment.

Reactive maintenance normally occurs when a request for service is received from the public or as a response to an alarm from a Council's SCADA system. Reasons for reactive maintenance include:

1. Faults at pump stations (SCADA alarm)
2. Response to power outages
3. Blockages in piped network, mains and laterals
4. Surface collapse due to broken pipes
5. Odours
6. Displaced manholes
7. Overflows from manhole or gully trap.

3.4 ASSET MANAGEMENT AND RENEWALS

Asset renewals for the wastewater network contribute to achieving Wellington Water's strategic goals to minimise public health risk, to provide reliable services to customers, to minimise impacts on waterways and the ocean, and to provide wastewater networks that are resilient to shocks, stresses and climate change.

Wellington Water and its client councils replace or renew assets as appropriate to enable those assets to deliver required outcomes and achieve agreed levels of service. In assessing the condition of the asset, Wellington Water considers the different ways the system can fail and the consequences of failure. Asset renewals also have a role in reducing inflow and infiltration where this is identified as being excessive.

3.4.1 Illegal cross connections and leaking networks

In addition to replacement and renewal, management activities involve repairing leakages and identifying illegal cross connections on private property. Illegal cross-connections and leaking networks are typically identified as a result of targeted projects analysing the performance and condition of the region's stormwater and wastewater networks. These methods include:

1. Inflow and infiltration surveys

2. CCTV pipe inspection surveys
3. Manhole inspections
4. Routine water quality monitoring programme and investigations.

Actions taken when an illegal cross-connection is found include a series of notifications (first, second and third notification) requiring the property owner to correct the situation.

4.0 STRATEGIC MANAGEMENT PLAN FOR WET WEATHER OVERFLOWS

Wet weather overflows of untreated wastewater to the environment are offensive to Mana Whenua and often detrimental to recreation, aesthetic and ecological values.

This section of the application sets out Wellington Water's Strategic Management Plan to progressively reduce wet weather overflows from the wastewater network while implementing Te Mana o te Wai.

4.1 KEY COMPONENTS OF THE STRATEGIC MANAGEMENT PLAN

There are four key components of the Strategic Management Plan, as set out in Figure 4-1 below.

Figure 4-1: Key Components of the Strategic Management Plan

Each of these components is discussed briefly below.

4.1.1 Collaborative Committee

The Wastewater Network Collaborative Committee (Collaborative Committee) will have the key oversight of consent implementation. It is a critical component of the relationships necessary for Te Mana o te Wai. The membership will be 50% Mana Whenua and 50% consent holder (HCC, UHCC, Wellington Water).

The membership is designed to reflect Mana Whenua's role as kaitiaki for the water bodies and Councils' roles as asset owners responsible for governance of, and investment in, the networks.

The Collaborative Committee will:

1. Determine the containment standard for wet weather overflows that the wastewater network will need to achieve over the term of the consent
2. Achieve the WNO objectives over the term of the consent
3. Determine the order of the sub-catchments to be upgraded (prioritised sub-catchments)
4. Oversee the preparation, updates, and implementation of the Strategic Reduction Plan. We will adopt this Plan and be accountable for its implementation
5. Oversee the preparation and implementation of the Wastewater Network Overflow Sub-catchment Reduction Plans (Sub-catchment Reduction Plans). We will also adopt these Plans and be accountable for their implementation.

The Collaborative Committee will operate for the duration of the consent.

4.1.2 Reduction Plans

There will be two types of reduction plans for wet weather overflows:

1. The Strategic Reduction Plan. There will be one version of this plan, which will be updated every six years. It applies across the geographic scope of the consent (Hutt Valley and Wainuiomata Wastewater and is intended to manage the big picture decision making and implementation issues.
2. The Sub-catchment Reduction Plans . Over the course of the consent a Sub-catchment Reduction Plan will be developed for each of the 16 sub-catchments that make up the Hutt Valley and Wainuiomata wastewater network catchment. They will be produced once the sub-catchment has been prioritised by the Collaborative Committee and will set out how wet weather overflows will be reduced in that sub-catchment to meet the containment standard. Each Sub-catchment Reduction Plan will have a list of infrastructure interventions such as increased pipe capacity, storage tanks and I&I programmes as well as policy and regulatory solutions.

By working our way through the sub-catchments in an organised and prioritised manner, Wellington Water intends to achieve the WNO objectives and the containment standard across the network over the term of the consent.

4.1.3 Overflow Objectives

There are four wastewater network overflow objectives (WNO Objectives) that we need to achieve over the duration of the consent. The Collaborative Committee will provide oversight and the Reduction Plans will be the primary implementation vehicles. The four WNO Objectives are set out in Table 4-1 below, along with the reason for each objective.

Table 4-1: WNO Objectives

The consent holder shall achieve the following wastewater network overflow objectives over the term of the consent:	Explanation
1. The frequency of wet weather overflow events is progressively reduced.	This is derived from Policy P92(c) of the pNRP.
2. Partnerships are developed with Mana Whenua for the oversight, planning and implementation of the resource consent for wet weather overflows.	This is derived from the NPS-FM's expectations for relationships surrounding Te Mana o te Wai and Objective O12 of the pNRP.
3. The reduction of wet weather overflows is prioritised in sub-catchments where the overflows are having an adverse effect on Mana Whenua sites of significance.	This is derived from both discussions with Mana Whenua and Policy P48 of the pNRP.
4. Wet Weather Overflows caused by issues in the public network do not enter habitable dwellings or private property	This is in response to public health concerns.

4.1.4 Te Mana o te Wai

Reducing wet weather overflows will not achieve Te Mana o te Wai by itself, but it is a fundamental and important step on the journey. This strategic management plan implements Te Mana o te Wai by:

1. Putting Mana Whenua in the centre of the decision making, where there can be on-going relationships about managing wet weather network overflows
2. Creating space for Mana Whenua to be involved at various other levels of the consent, from supporting the Collaborative Committee to responsibility for Mātauranga Māori monitoring
3. Progressively reducing the frequency of overflows and improving the mauri of the water, supporting the relationship between water and Mana Whenua as well as improving water's aesthetics, its accessibility for recreation and its ecosystem health.

As well as implementing Te Mana o te Wai, this approach honours Mana Whenua as signatories to Te Tiriti o Waitangi and their role as kaitiaki with responsibilities and obligations to their whakapapa and their environment.

4.1.5 Summary

In combination, these four components will result in a significant reduction of overflows from the wastewater network during wet weather over the duration of the consent.

4.2 CONTEXT

4.2.1 The network often overflows in wet weather

There are many reported overflow events in the Hutt Valley each year. Some of these events include several different points overflowing at the same time. For example, a storm in July 2022 resulted in overflows at six pump stations, and six more overflows were detected in the network. There would have been more overflows in that storm that Wellington Water was unaware of.

Our models show that climate change and an ageing network will cause more overflows to occur unless we intervene. In the Hutt (Upper and Lower Hutt) Valley and Wainuiomata networks, our models estimate that in 2070 there would be 165 locations that overflow in a 1 in six-month storm event if there were no network improvements from today. These locations include:

1. 15 Constructed Overflow Points
2. 150 "uncontrolled" network overflows. Note that further investigation and evidence is required to confirm that these spills will occur.

While models are an estimation and not exact, they provide a clear indication of trends and network performance.

4.2.2 Our network was designed to include wastewater network overflows

At its heart, our wastewater network is currently a critical public health intervention that has saved vast numbers of lives. It was set up from the 1890s onwards to reduce waves of illnesses such as typhoid and dysentery sweeping the city.

The network has a finite capacity and is prone to inflow and infiltration from rainfall. It is designed to carry some rainfall, for example, in the 1950s pipes were designed to carry four times the average dry weather flow of wastewater. Now the pipes are designed to carry around six times the flow of wastewater. The extra capacity is to accommodate rainfall. However, in larger wet weather events the amount of rain and wastewater in the pipes often exceeds the capacity of the pipes. This can result in:

1. Wastewater coming out gully traps
2. Wastewater coming back up toilets in houses and other buildings

3. Wastewater overwhelming public infrastructure such as pump stations.

Accordingly, constructed overflow points were included in the system. These are usually piped directly to water because the untreated wastewater creates a public health risk on land, where it is accessible to all, and may pond. But if directed to a stream or the coast, then the water dilutes and disperses the wastewater.

There are also unplanned (also known as uncontrolled) overflow points, such as at manholes.

Installing controlled overflow points (COPs) is a pragmatic way of managing the wastewater network so it doesn't have to accommodate infrequent storm events, which would require much greater pipe diameters with the additional cost and construction issues. Moreover, even a network with much greater capacity would overflow at some point.

Regardless of the practicalities, our communities have made it clear that improvement is required.

4.2.3 There are new expectations and regulations for wastewater overflows

There has been a growing drive over the last 20 years to manage wastewater in accordance with Mana Whenua expectations. This is particularly obvious in National Policy Statements, Regional Plans, and resource consent conditions. The focus was initially on wastewater treatment plants; however, it is now expanding to include wastewater network overflows.

Our communities are also telling us that they are finding the overflows less and less acceptable.

There have been some attempts to reduce wastewater overflows across urban Wellington in recent decades. This has included:

1. The WCC Sewage Pollution Elimination work in the 1990s associated with swimming
2. The Waiwhetū Stream work in the 2000s associated with Mana Whenua values and aesthetics
3. Implementation of human health mitigation programmes under the stage 1 stormwater consent. In these projects Wellington Water is checking the condition of the private and public network, asking private property owners to carry out repairs on their pipes, and repairing public network faults. With special funding from Wellington, Hutt and Porirua councils work began in 2021 in three catchments: Owhiro Bay, Titahi Bay, and Wainuiomata. Customers located in these catchments may have received correspondence from Wellington Water branded as Knowing Your Pipes, introducing the issues and the investigative work that is being undertaken
4. Work in Karori since 2018 as part of a wastewater network improvement programme. This has included the completion of a report assessing the issue in early 2019, house to house gully trap inspections over 2019 and 2020, and lining of public mains and laterals over 2021 and 2022.

However, Wellington Water is now required to seek a consent for its wet weather overflows. This may result in one of the biggest programmes across Aotearoa New Zealand for reducing wet weather overflows with the work occurring across Hutt Valley, Porirua and Wellington City. The investment will exceed $1billion over 35 years.

Because we have never before addressed the overflows at this scale, we are starting with limited information, relationships, investment, and resources.

4.2.4 Initially, we'll focus on progressive reduction of overflows rather than full elimination

Unfortunately, it is not currently realistic to upgrade our existing wastewater network system so that it never overflows. Instead, we will progressively reduce the overflows. This is because the current system is configured in a way that allows rainwater to enter it. If, in the future, we can change that approach, then we'll be able to think about eliminating overflows altogether.

An early step for reducing overflows will be to set a containment standard, which refers to the average number of discharges per year, which may be less than 1 (e.g. 0.5 equates to 1 every two years). In basic

terms, reductions can be achieved either by improving the capacity of the wastewater network to handle rainwater, or by preventing or reducing rainwater from entering the wastewater network in the first place. In practice a combination of these approaches is proposed.

We will improve our network over the lifetime of the consent to achieve this containment standard with measures such as:

1. inflow and infiltration programmes to reduce rainfall entering our network
2. removal of full or partial blockages in the public network
3. storage tanks in the network to provide attenuation of flows
4. increased pipe capacity
5. pump station upgrades.

Section 4.10.1 sets out how we'll also be watching for opportunities to eliminate overflows.

4.3 OTHER CITIES ARE ALSO GRAPPLING WITH WET WEATHER OVERFLOWS

Experience elsewhere indicates that overflow reduction programmes are usually more challenging, complex and expensive than originally expected. This includes USA, Singapore, the UK and Australia as well as Auckland.

Table 4-2: Sydney, Auckland and UK Experience in Reducing Overflows

Location	Original Aim and Time Frame	Approx. Investment to Date	Outcome
Sydney	No more than 2 overflows per year in highly sensitive catchments. No more than 4 overflows per year in less sensitive catchments Both by 2021	The 1998 estimate was AUS $1.6B. In 2012 another $6B was required to hit all targets by 2021.	Programme cost became too expensive by 2012, so have revised programme and goals. Still have similar targets but will take much longer to achieve and have agreed to refocus using an effects based approach.
Auckland	An average of no more than two Wet Weather Overflow Events per Engineered Overflow Point per year as assessed by computer modelling or actual recorded performance. If this is not achieved the consent holder shall determine an alternative discharge frequency. Wider Mangere area is being served by Central Interceptor and has until 2030 to achieve containment standard. Remaining areas to be delivered by the end of 2045.	Total for wider Mangere area cost around $3.7B (including Central Interceptor). Rest of greater Auckland circa $1B to $2B. The remainder of Auckland costs are likely to increase as more detailed design is completed.	Still hoping to achieve the outcomes.

Location	Original Aim and Time Frame	Approx. Investment to Date	Outcome
UK	4 spills per bathing season for swimmable beaches. There are around 15,000 storm overflows in England, and in 2020 there were over 400,000 sewage discharges, totalling over 3 million hours of discharge. It is the government's strong view that this is unacceptable.	UK Water companies have invested around £5B in the past 20 years to reduce wastewater overflows. A recent report commissioned by DEFRA estimated that complete elimination of the 15,000 remaining wastewater overflows in England would cost between £350 billion and £600 billion. This could increase household bills between £569 and £999 per year and is also highly disruptive and complex to deliver nationwide.	The current plan out for consultation is as follows with the cost likely to be more than £100 billion: • By 2035, the environmental impacts of 3,000 storm overflows (75%) affecting most important protected sites will have been eliminated • By 2035, there will be 70% fewer discharges into bathing waters • By 2040, approximately 160,000 discharges will have been eliminated (40% of the total); and by 2050, approximately 320,000 discharges, will have been eliminated (80% of the total).

This table shows that it will be important for us to apply best practice and to stay abreast of new technology that might offer better options than we currently have available. There will be tough decisions about the level of investment, priority sub-catchments and the level of containment.

The most important steps at the moment are to build the relationships and trust that are needed for effective water management into the future. We may not have all the answers at this stage but that should not prevent us from starting.

4.4 THE COLLABORATIVE COMMITTEE WILL DRIVE CHANGE

The Collaborative Committee will have the key oversight of consent implementation. It is a critical component of the relationships necessary for Te Mana o te Wai. The membership will be 50% Mana Whenua and 50% consent holder (HCC, UHCC, Wellington Water).

A series of four figures is shown over the following pages, being:

1. The Nesting Diagram (Figure 4-2) which shows how the other three diagrams relate to each other
2. The Collaborative Committee inputs and outputs (Figure 4-3)
3. The Sub-catchment Reduction Plan development, investment, implementation and modelling loop (Figure 4-4)
4. The overall 35-year programme of Strategic Reduction Plan updates and Sub-catchment Reduction Plans (Figure 4-5)

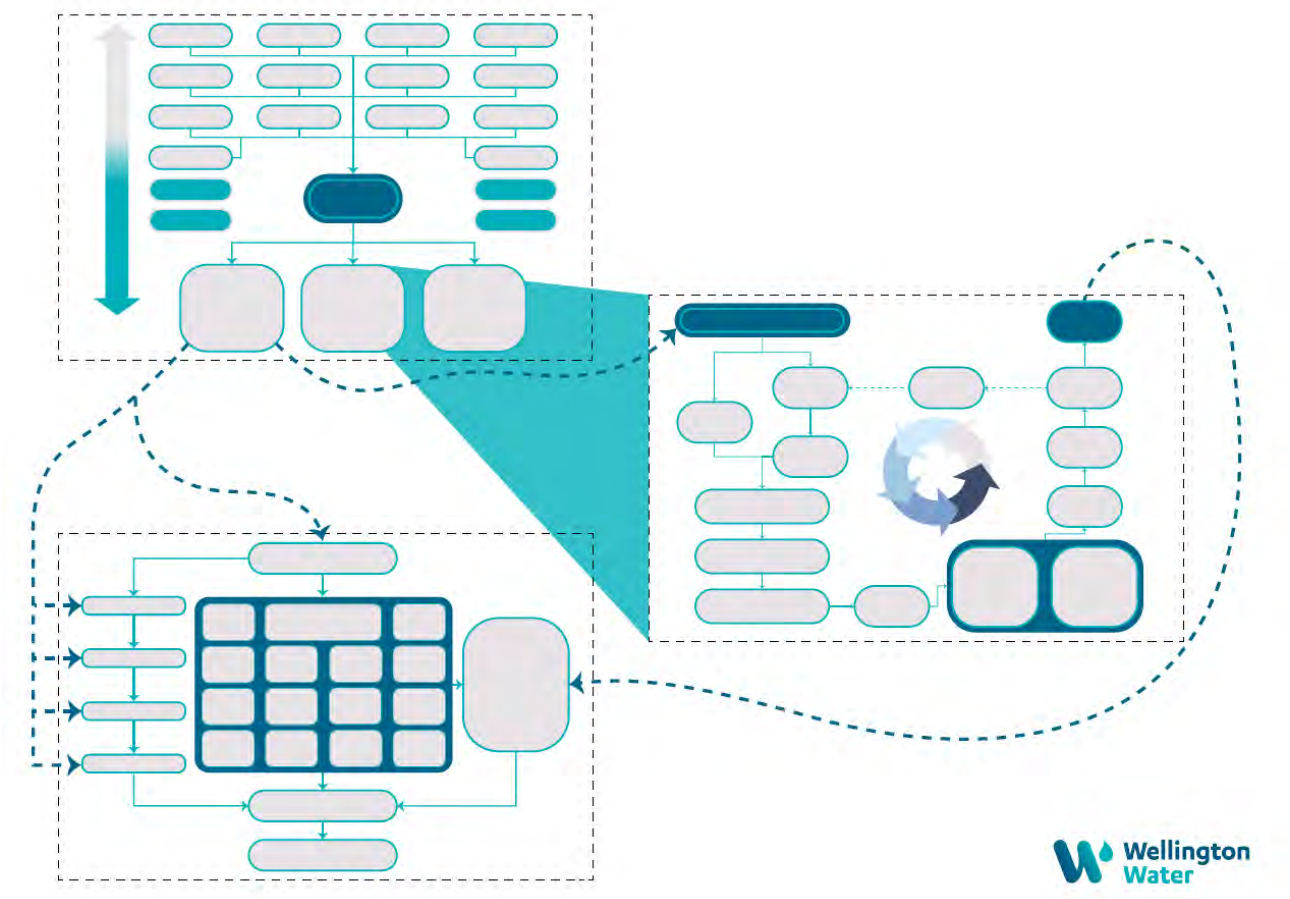

Figure 4-2: Strategic Management Plan Nesting Diagram

As shown, there are a number of connectivities between the Collaborative Committee, the Strategic Reduction Plans and the Sub-catchment Reduction Plan. Working together these processes form the backbone of the consent to deliver a reduction in overflows in all sub-catchments over the next 35 years.

4.4.1 The Collaborative Committee will have a variety of roles

The Collaborative Committee will:

1. Aim to achieve the objectives set out in Table 4-1
2. Oversee the preparation of the Strategic Reduction Plan and updates, including:
    a. Determine the containment standard or level of service that the network will need to achieve in wet weather over the term of the consent
    b. Determine prioritised sub-catchments
3. Oversee implementation of the Strategic Reduction Plan
4. Oversee the preparation of the Sub-catchment Reduction Plans once a sub-catchment is prioritised
5. Oversee implementation of the Sub-catchment Reduction Plans
6. Receive information about the performance of the network in sub-catchments where the reduction plan work is complete.

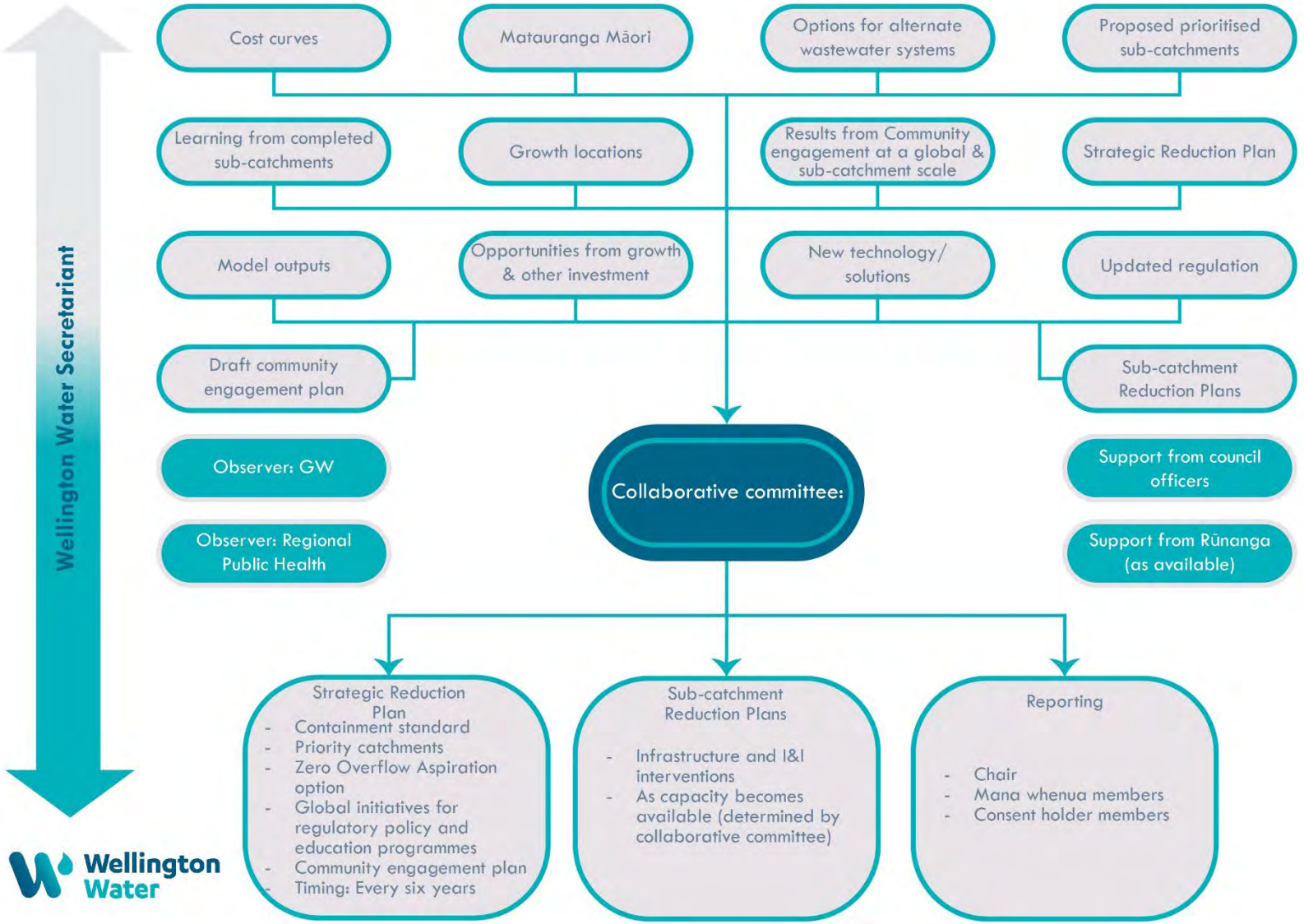

Figure 4-3: Collaborative Committee inputs and outputs

As shown in Figure 4-3, there will be a number of inputs to the Collaborative Committee. The Committee will be supported by council officers and Mana Whenua/Rūnanga/settlement entity officers as desired. Mana Whenua will also be able to prepare/help prepare various inputs, if they choose. There will be two observers: GWRC as environmental regulator, and Regional Public Health. Wellington Water will act as secretariat. The collaborative committee may have an independent chair.

The network wide containment standard will be developed once, in the very early stages of the consent.

The priority order of sub-catchments will be carefully programmed by the Collaborative Committee and Wellington Water to allow for addressing mana whenua values early, growth, sites with frequent overflows and infrastructure planning. In some cases, it may make sense to address upstream catchments first, in other cases, the downstream catchments may need to be upgraded early. It's intended that Wellington Water only carries out substantial upgrades in a sub-catchment once, rather than revisiting it multiple times.

The prioritised sub-catchments will be revisited by the Collaborative Committee every six years as part of the Strategic Reduction Plan updates. Wellington Water, in conjunction with Mana Whenua and with input from the global community engagement group, will put forward an updated list of prioritised sub-catchments based on the latest information. This will be considered and decided upon by the Collaborative Committee and then adopted by Wellington Water. More information about the global and sub catchment community engagement structures can be found at section 4.7.

4.4.2 Reduction Plans will be produced, implemented, and monitored on a regular basis

The Strategic Reduction Plan will be prepared and then updated every six years. The original version and all updates will be adopted by Wellington Water and certified by GWRC. See section 5.1.5 for further information on the Strategic Reduction Plan.

The Sub-catchment Reduction Plans will be prepared and implemented at a pace to ensure reasonably linear improvements over the lifetime of the consent. It will take some time to build momentum, but once up and going there will always be multiple Sub-catchment Reduction Plans in development and implementation across the network. It is expected that all sub-catchments will need some degree of work to achieve the containment standard across the entire network by the end of the consent. Because of the scale of the work it is not feasible to produce all Sub-catchment Reduction Plans at the commencement of consent.

Again, the Sub-catchment Reduction Plans will be adopted by Wellington Water and certified by GWRC. It will take several years from prioritization of a sub-catchment by the Collaborative Committee to completion of the physical works. The process needs to allow for:

1. Approval of investment (which may be in the hundreds of millions for some sub-catchments, depending on what containment standard is selected)
2. Design of the interventions
3. Implementation of the interventions
4. Determination of the effectiveness of the interventions.

This repeating process is shown in Figure 4-4 below.

Figure 4-4 shows the important links between planning and investment. Because of the scale of the investment needed, Wellington Water cannot currently guarantee the scale of funding that will be available for the implementation of the Sub-catchment Reduction Plans. Current funding or investment requests are approved by our councils, who need to follow the Long Term Plan process, which is subject to public consultation and cannot be pre-determined. This process will change with the implementation of water reform to create standalone water entities; however the detail of prioritisation and levels of funding is not clear at this stage of reform.

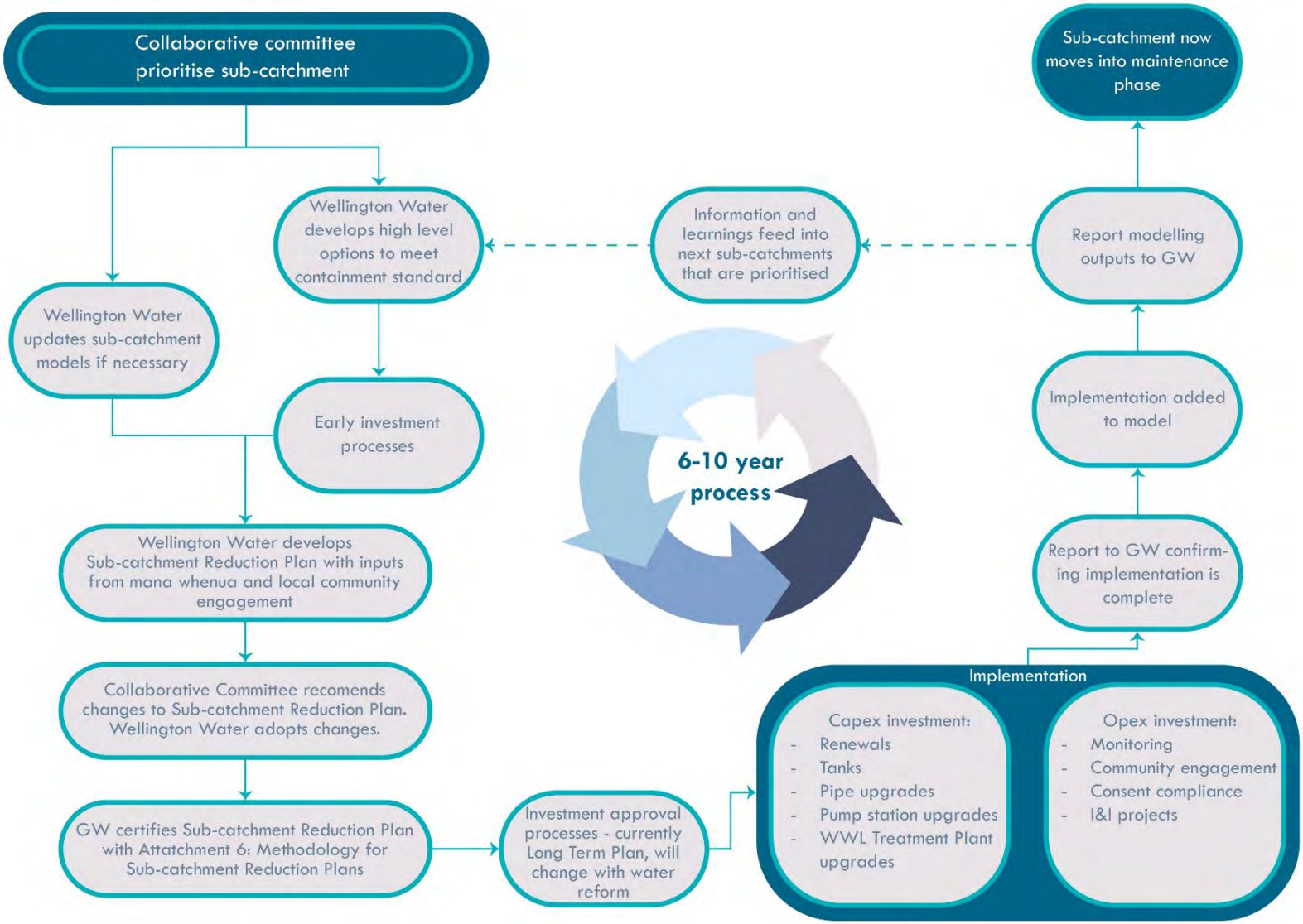

Figure 4-4: Sub-catchment Reduction Plan implementation

The process illustrated in Figure 4-4 is designed to maximise the potential for the necessary investment under the current regime, including the following factors:

1. The Sub-catchment Reduction Plans prepared by Wellington Water (with oversight by the Collaborative Committee) will take account of likely investment availability
2. The Collaborative Committee will receive investment advice when finalising the Sub-catchment Reduction Plans
3. The Collaborative Committee has a joint membership designed to strike a balance between aspiration and fiscal responsibility
4. The containment standard will be based on the best return for investment over the network catchment
5. There is a growing drive to include Mana Whenua in Wellington Water's investment planning processes. Wastewater interactions with freshwater is expected to be a big focus of those engagements
6. There is also a growing desire for Mana Whenua to have input into Councils' Long Term Plan decision making and again, those engagements are expected to have a strong focus on wet weather overflows. This intention is expected to continue with the creation of the new water entities under water reform
7. The elected representatives on the collaborative committee will be part of the Long Term Plan / water service entities decision making. They will be able to advocate for the recommendations in the Sub-catchment Reduction Plans
8. GWRC will be reviewing Wellington Water's implementation of the Sub-catchment Reduction Plans to ensure that progressive reduction is being achieved.

These connections are expected to become clearer and more tangible with water reform. The councillors would no longer be the investor and so instead senior officers from the Water Services Entity would make up 50% of the membership alongside Mana Whenua. Following reform, the economic regulator would also be offered an observer role to the Collaborative Committee to help ensure appropriate investment.

In terms of certification for both types of Reduction Plans, the first Strategic Reduction Plan will be certified by GWRC to ensure that the processes for setting the containment standard and the prioritised sub-catchments have been appropriately applied are in accordance with the consent conditions. The six yearly updates to the Strategic Reduction Plan will also be certified by GWRC.

Figure 4-4 also shows two GWRC checkpoints for each Sub-catchment Reduction Plan, being:

1. Certification of the Sub-catchment Reduction Plan to confirm that the agreed methodologies have been followed (as set out in the resource consent)
2. Confirmation through reporting that the interventions listed have been implemented.

Sometimes an intervention listed in a certified Sub-catchment Reduction Plan won't be achievable due to factors such as land availability or resource consenting issues, which won't always be apparent early in the process. Flexibility is required. In these circumstances Wellington Water will submit an updated Sub-catchment Reduction Plan to GWRC and demonstrate how the changes to the interventions are able to achieve the same outcomes.

Wellington Water has proposed a consent condition to require it prepare and implement a certain number of Sub-catchment Reduction Plans in a certain time period. This will ensure we are making progressive reductions in wet weather overflows over the lifetime of the consent. There is also a third key compliance measure, being the modelled containment standard. Further discussion on this measure is included in section 4.9.

4.4.3 Meaningful change is expected over the duration of the consent

Figure 4-5 sets out how successive cycles of Figure 4-4 will result in meaningful changes to the frequency of wet weather overflows from the wastewater network.

Given the scale of the work programme, it may take 30 years for us to implement major upgrades in some sub-catchments. There will also be network wide programmes for education, regulation, and policy, which will also be overseen by the Collaborative Committee and developed in conjunction with Mana Whenua and with input from the global community engagement group.

At the end of the consent, Wellington Water will run the strategic model to determine if the entire network is able to achieve the containment standard set by the Collaborative Committee, and so has satisfied the conditions of the resource consent. More information about the model and the importance of its role in consent compliance is provided in section 6.

This consent is only the beginning of Wellington's journey around wet weather overflows. When the consent expires, the Collaborative Committee will be well positioned to set the course for the next stage of managing and reducing the overflows.

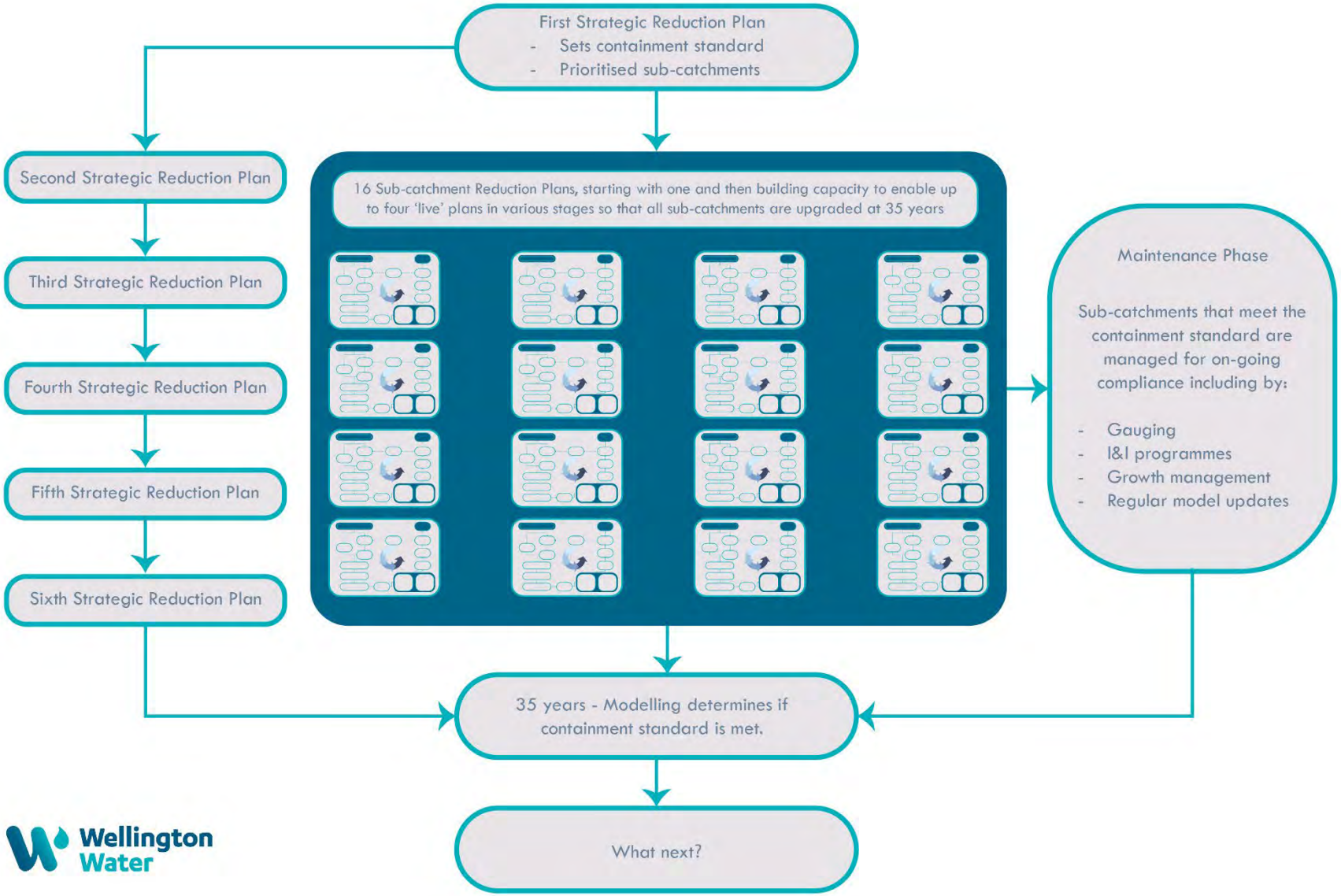

Figure 4-5: 35 Year Programme of Maintenance and Improvements

4.4.4 Once a sub-catchment is upgraded, it will need to be maintained at that level of service

Once the containment standard is met in a sub-catchment, that sub-catchment will be managed to ensure ongoing compliance with the containment standard. This is shown in the right block of Figure 4-5.

This process is needed because we cannot prevent all overflows, even if a sub-catchment is upgraded. We will design and upgrade the network so it should cope but there are factors outside the control of Wellington Water that will cause overflows in wet weather (e.g. partial blockages).

It is also important to note that whether or not the performance standard is met will be assessed using modelling, as explained below, rather than the number of recorded overflows each year. That is because sometimes there are more storm events in a given year than expected, and it is more appropriate to model the network over a long term time series that evens out the wet weather events.Reducing overflows requires a range of solutions

In general, there are four key ways to reduce wet weather overflows. They can be grouped as follows:

1. Reducing inflow and infiltration of rainfall into the wastewater pipes. Inflow is rainwater entering the wastewater system directly from the surface through incorrect plumbing, cross connections and damaged or low-lying gully traps or holes in manholes. Infiltration is groundwater seeping into the wastewater system through cracks or bad joints in wastewater pipes and manholes. Wellington Water can investigate small areas with high inflow and infiltration to reduce overflows. This can lead to physical works on private property at the landowner's expense and/or physical repair or renewals on the public network.
2. Increasing the network's capacity to manage inflow and infiltration. Physical works increasing pipe capacity for conveying, increased pump station capacity, renewed pipes and increased storage.
3. Community education on matters such as managing tree roots and only flushing the three P's (pee, poo and paper).
4. Policy to manage new connections to the network and ensuring that they are appropriately sized.

The Sub-catchment Reduction Plans will determine the programme of works to achieve the containment standard using this list. If new options become available, then they will be added.

Ideally, an effective programme of works would focus on inflow and infiltration reduction and community education and policy as at source and lower cost, lower disruption solutions, however, Wellington Water's experience is that these generally have limited effectiveness due to challenges of implementation and it can be difficult to determine the extent of improvement (if any).

Physical works are more expensive but provide a more certain reduction.

4.5 THE INVESTMENT IS CHALLENGING

A big change in investment is required. All the different options for reducing overflows require financial support. Storage tanks and new pump stations require a high level of capital expenditure, while options such as reducing the rainfall entering pipes are very labour intensive. In some locations increasing pipe capacity may be relatively inexpensive, but in most others, it has a hefty price tag.

There will be some opportunities for dual outcomes from the same investment such as replacing a degraded pipe will improve reliability of the network and reduce infiltration of stormwater.

No matter how we try to frame it, however, the scale of investment is significant and comes at the same time as Seaview WWTP requires upgrades, dry weather overflows need to be reduced, and the implementation of the global stormwater consent. Moreover, there are other three waters expenses such as water supply and an ageing network. The investment pressure is further compounded by the fact that three waters is only one of many areas seeking urgent investment from our councils.

If water reform proceeds it is expected to provide additional funding opportunities. Otherwise, our councils may need to consider other options such as targeted rates, specific development/financial contributions, alignment with growth opportunities or additional central government support. Whaitua Te Whanganui-a-Tara noted:

> Implementing all our recommendations in the timeframes specified will require new approaches to funding for three waters.[6]

Investment can also be maximised by applying a sub-catchment approach, rather than an ad-hoc, reactive approach that tries to deal with each overflow individually. This is facilitated by the global nature of the consent. A longer consent duration will also increase certainty of investment for our owners.

4.5.1 The cost curve shows the best return on investment

To help our councils understand the cost implications of reducing wet weather overflows, we asked expert modellers to spend a few months looking at how much money is needed to achieve different containment standards in the Black Creek sub-catchment in Wainuiomata. This information is shown in Figure 4-6.

It shows that to achieve a containment standard of one overflow every six months (which is the standard many engineers design to) we would need to invest $95m. This would consist of eight new storage tanks with a total capacity of around 7 million litres, which is approximately the same as three Olympic sized swimming pools.

In this example, the six month containment standard provides the best value for money, in the sense that more ambitious containment standards would cost much more than a lesser containment standard as shown in Figure 4-6, below. This information would be considered alongside assessment of environmental effects information in Wellington Water's recommendations to the Collaborative Committee.

Even if we spent $300 million for Black Creek overflows would still occur, albeit at a much reduced frequency. As discussed at section 4.10.1, eliminating overflows completely requires a different type of network rather than ever more investment in our current type of network.

Depending on the containment standard chosen by the Collaborative Committee, resolving overflows in the Hutt Valley and Wainuiomata catchments may require investment exceeding $1 billion.

[6] https://www.gw.govt.nz/assets/Documents/2021/12/Te-Whaitua-te-Whanganui-a-Tara-Implementation-Programme_web.pdf page 11.

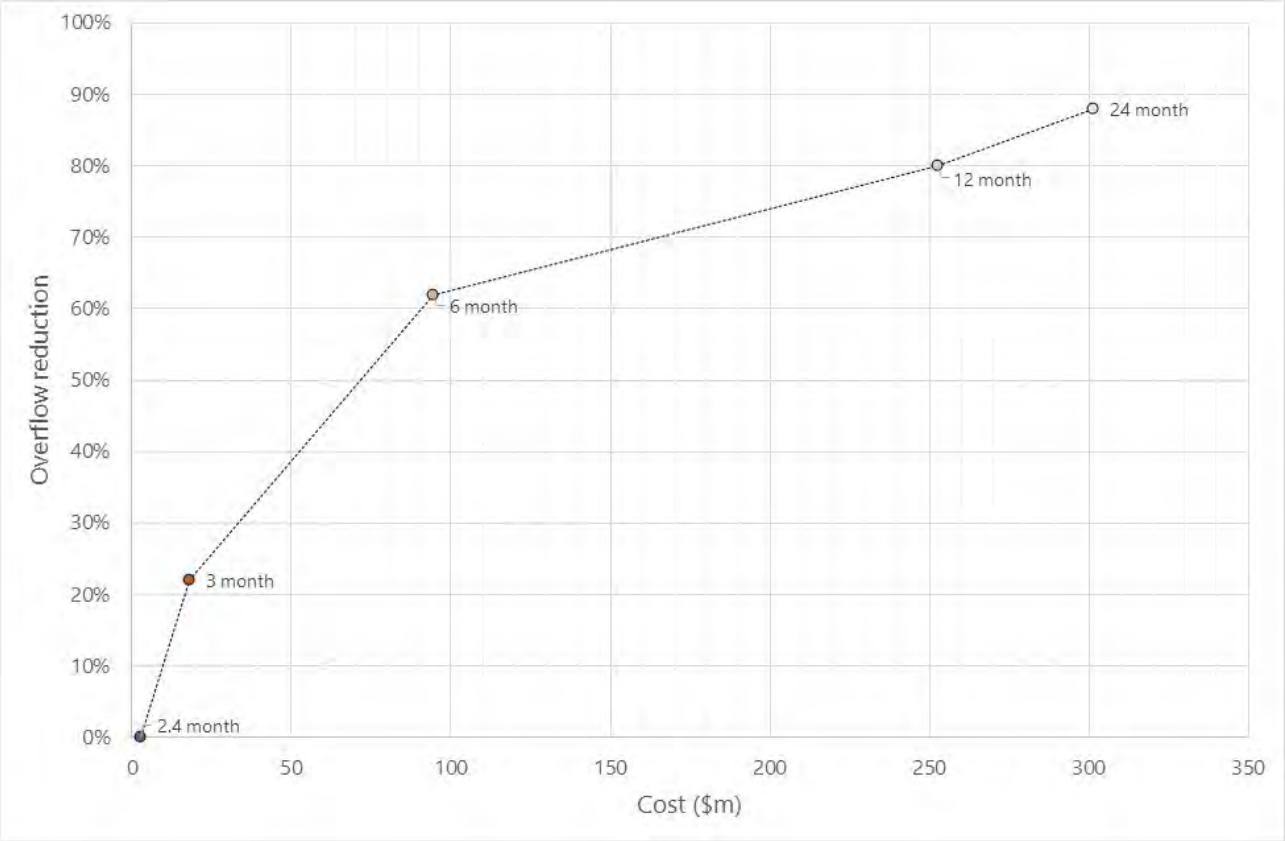

Figure 4-6: Black Creek Cost Curve

4.7 THE COMMUNITY HAS A ROLE TO PLAY TOO

The community has a number of roles to play in reducing wet weather overflows, including but not limited to:

1. Managing private assets to ensure that wastewater laterals don't leak, gully traps are at the right level so surface water doesn't enter, and stormwater downpipes and laterals are connected to stormwater mains rather than wastewater mains
2. Disposing of wet wipes, tampons, sanitary pads, nappies, dental floss, condoms and oils/fat in rubbish bins rather than down sinks and toilets to prevent blockages
3. Contacting Wellington Water with information about overflows in wet weather.

There are also several community groups with an interest in preventing wet weather overflows and they often have a high level of knowledge that will be useful when planning improvements to a sub-catchment.

We intend to engage with the community in two different ways:

1. Global focus: As part of the consent, Wellington Water will establish a community group with a global focus. This group will engage with the secretariat supporting the Collaborative Committee and will be expected to have views to support the works across the entire catchment. Members will be expected to avoid advocating for their local waterways and networks and instead focus on reducing wet weather overflows across the city. It is likely that this group will work across all four cities and both stormwater and wastewater to achieve an integrated approach
2. Sub-catchment focus: When a sub-catchment is prioritised, Wellington Water will engage with the local community groups to understand the preferred types of interventions, what local knowledge is available, best ways to engage with residents and businesses and how to manage any disruption that may occur (e.g. road works on the main shopping street).

The Collaborative Committee will prepare a community engagement plan to support this tiered approach.

Community groups that want to advocate for their sub-catchment to be prioritised will be able to do that via the normal channels, e.g. engagement with Wellington Water secretariat or discussions with councillors on the Collaborative Committee.

4.8 OVERFLOWS WILL BE MANAGED AS WE GROW

As set out in the National Policy Statement for Urban Development 2020, providing more houses is a priority for urban planning. This growth can exacerbate overflows by creating more users of, and more connections to, the wastewater network. We need to find ways to support growth while reducing overflows.

Growth also brings opportunities, such as investment or synergies between physical works programmes. The potential for overflows associated with growth will be managed by ensuring that new infrastructure achieves the containment standard set by the Collaborative Committee.

4.9 MODELLING IS A KEY TOOL FOR REDUCING OVERFLOWS

The wastewater network model will be a key planning and compliance tool for the resource consent, including the following functions:

1. It will be central to the setting of the containment standard
2. Its outputs have informed the assessment of effects in Part 2
3. Its outputs will inform the decisions about which interventions will be most effective for WNO Reduction Plans
4. It will advise how effective our interventions are, once they have been installed, which is an important part of building confidence in our data and planning
5. At the end of the resource consent, it will be used to advise whether the network meets the containment standard set by the Collaborative Committee.

As the model will underpin much of our work and our measurement of success, regulator and public confidence in the model is crucial. Conditions on the resource consent need to ensure that there is appropriate technical oversight of the model.

There are limits on the model at the moment; it can only be reasonably used for events up to two year frequency (e.g. a one in two year rainstorm). Currently the model extent includes the trunk network and will include the local pipes where overflows exist. Private pipes won't generally be modelled.

Modelling technology is expected to improve greatly over the lifetime of the consent. Those changes will give us more reliable data, data at a finer level of detail, models that can be updated more regularly and outputs that are more accessible to the public. This last point is particularly important for increasing public confidence in our work.

4.9.1 We will model compliance rather than measure it

At the end of the consent, we will run the model to confirm whether the network meets the containment standard set by the Collaborative Committee over a long term time series. This is for a few reasons:

1. Sometimes there are more storm events in a year than expected e.g. one year might have two, one year storm events. This means that we would be non-compliant because of poor weather. Its fairer to model the network over a long term time series that evens out the wet weather events
2. Even if our network is designed and constructed to be compliant, there will be factors outside of our control that may result in wet weather overflows, such as partial blockages from wet wipes.

As mentioned above, the reliance on the model for compliance purposes makes it crucial that our regulator and the public have confidence in the model.

The model will also be run regularly through the term of the consent to provide information for progress and planning.

4.10 WE NEED A DIFFERENT TYPE OF WASTEWATER NETWORK TO COMPLETELY ELIMINATE OVERFLOWS

GWRC has been leading the Whaitua work programme for several years. The Whaitua is an initiative to clearly articulate community aspirations for freshwater and drive change across all sectors affecting freshwater (not just Wellington Water). Table 4-3 shows the aspirations for wet weather overflows.

Table 4-3: Aspiration for Wet Weather Overflows

Whaitua	Mana Whenua Aspiration	Whaitua Committee Aspiration
Te Awarua-o-Porirua	A twenty-year 'Water Network Action Plan' to identify and prioritise actions to address wastewater, stormwater and freshwater issues across the rohe, including the issue of wrongly connected pipes page:14	While the Committee has set a C attribute state objective for E. coli and enterococci … it is also aware of the aspirations of Ngāti Toa Rangatira and the wider community to have an A attribute state objective throughout the Whaitua. The Committee has the same aspirations but given the scale of change and improvements required by the Committee, it concluded that an A attribute state was not achievable or affordable in all management units in the short term. Once a C attribute state had been achieved, improvements should continue to progress towards meeting the A attribute state criteria throughout the Whaitua. Page: 71
Te Whanganui-a-Tara	The pervasive presence of human waste in waterbodies across the whaitua is the singular most significant issue for Mana Whenua Page: 32	A target of zero wastewater overflows (by 2060) is achieved, except in infrequent situations (such as pump failures or rainfall events) with a >25-year average return period (ARI). Recommendation: 21

We cannot achieve the Zero Overflow Aspirations shown in Table 4-3 using I&I, blockage management, increased pipe sizes and more storage. We would need a completely different type of network from our current gravity fed network.

4.10.1 We need to be open to big changes

Other types of networks could possibly achieve the Zero Overflow Aspirations for wet weather overflows. Options include low pressure sewage networks or composting toilets. But all come with their own issues. Composting toilets are a public health risk and low pressure sewage networks are very expensive to retrofit and challenging to maintain.

Wellington Water will pursue the options that will progressively reduce wet weather overflows on our current network. This work will be planned via the Sub-catchment Reduction Plans and overseen by the Collaborative Committee.

Alongside that work, the Collaborative Committee, as part of the Strategic Reduction Plan and its six yearly updates, will also regularly review options that would satisfy the Zero Overflow Aspirations, including new technology that becomes available. If an option is viable, there is community will and political will, and investment is available, then the new system can be rolled out, either over part of, or all of, the network catchment. This work is referenced in Figure 4-3 as 'Options Zero Overflow Aspirations'.

Rolling out an entirely new network or way of managing wastewater would take several decades if it was pursued.

4.11 MONITORING WILL SUPPORT MODELLING, THE REDUCTION PLANS AND COMPLIANCE

On-going monitoring over the lifetime of the consent will be needed to:

1. Support models
2. Increase public and regulator confidence in our work
3. Improve our understanding of what is going on
4. Provide information to the Collaborative Committee.

There are several different types of monitoring that can inform our work, which are discussed below.

4.11.1 Mātauranga Māori monitoring will be an information stream for decision makers

We will work with Mana Whenua and GWRC to understand if Mātauranga Māori monitoring will be required specifically for the consent. Ideally, the information collected as part of the Regional Kaitiaki Framework, which is being established by GWRC, would provide the Mātauranga Māori inputs to the Collaborative Committee. We expect that if resourcing is available, Mana Whenua will take responsibility for preparing and sharing this information and we will support them (including financially) to do this.

4.11.2 Receiving environment monitoring occurs under the global stormwater consent

Wellington Water already implements a receiving environment monitoring plan under its global stormwater consent. This plan, which utilises data collected by Wellington Water and GWRC, is currently focussed on developing a clear baseline understanding of the receiving environment condition. Once this baseline is established, it is anticipated that the plan will be revised to provide a single integrated receiving environment monitoring approach for Wellington Water's network discharges over and above the state of the environment monitoring that is led by GWRC. This work will be led by the stormwater component of the programme.

4.11.3 We will monitor the frequency of overflows

The most important metric of overflows is if they occur or not. If they occur, the overflows degrade Mana Whenua and wider social values and sometimes also impact on biology, recreation and/or public health. Our approach is to focus on the frequency of overflows and progressively reduce it over the lifetime of the consent.

Many of our constructed overflows are now monitored so that we know when these sites overflow. The monitors tell us when an overflow starts and when it finishes. This means that we can determine the duration of the overflow. If we know the duration of the overflow, we can roughly estimate the volume of the overflow.

There are one or two sites where we can also measure the volume (rather than estimating it), but this requires very specific engineering criteria and cannot practicably be widely rolled out across the network with current technology.

4.11.4 Rainfall entering the wastewater network will be monitored to support modelling

Wet weather overflows are driven by rainfall entering the wastewater network. This means that to model the overflows accurately, we need to collect data about how much rain enters the network. We can do this using flow monitors that will be rotated around the sub-catchments, based on where they can be most useful. Alternative technology, such as rainfall radar, is also improving to enable better measurement.

4.12 THE STRATEGIC MANAGEMENT PLAN WILL WORK WITH OR WITHOUT WATER REFORM

The Strategic Management Plan that has been detailed in this section of the application is set up for the current system of water delivery in Wellington, which includes councils as asset owners and investors and Wellington Water, a council controlled organisation, as network operator.

Water reform will mean that asset investment and operations will be held in one organisation, which for Wellington will be what is currently referred to as "Entity C". If water reform occurs, then Entity C officers will be on the Collaborative Committee with Mana Whenua, instead of councillors.

Water reform will simplify the connections between the Sub-catchment Reduction Plans and investment planning, because the investment decision making will occur within Entity C. Government policy statements are expected to be part of the investment direction, and an economic regulator will also be involved in review of investment.

4.13 MANY OTHER WORKSTREAMS ARE NEEDED FOR TE MANA O TE WAI

Wellington Water aims to become Te Ika Rō Wai, which will be when Wellington Water has achieved the right balance between the environment and our services. Te Ika Rō Wai involves a number of workstreams around Te Mana o te Wai, of which progressive reduction of wet weather overflows is just one. Others include:

1. Better management of dry weather overflows
2. Upgrades to our wastewater treatment plants
3. Reducing contamination from our stormwater
4. Demand management for water supply
5. Increased involvement of Mana Whenua in our strategic decision making.

Other programmes will be needed as our maturity around Te Mana o te Wai grows.

Wellington Water is one of many organisations with responsibilities and obligations under Te Mana o te Wai. To achieve Te Mana o te Wai, central government policy, environmental regulation and our wider communities will need to align. This will need to be supported by appropriate investment, sufficient resourcing of Mana Whenua and a materially increased workforce in water quality.

5.0 IMPLEMENTATION OF THE STRATEGIC MANAGEMENT PLAN

Key to the implementation of the Strategic Management Plan that is detailed in section 4 are the proposed resource consent conditions and associated methodologies relating to the Strategic Reduction Plan, the Sub-catchment Reduction Plan and the role and functions of the Collaborative Committee.

This section describes what the conditions and methodologies require for the development and implementation of the Strategic and Sub-catchment Reduction Plans over the term of the consent, the roles of the Collaborative Committee and Mana Whenua in producing the Reduction Plans and the role of GWRC in certifying the Plan.

5.1 STRATEGIC REDUCTION PLANS

5.1.1 Overview

The proposed resource consent conditions require the consent holder, with oversight from the Collaborative Committee and support from Mana Whenua, to prepare a Strategic Reduction Plan and update it on a six yearly basis.

The purpose of the Strategic Reduction Plan is to develop mechanisms and recommend initiatives that in conjunction with the implementation of the Sub-catchment Reduction Plans will ensure the wastewater network overflow objectives and the containment standard are achieved over the term of the consent.

The key components of the Strategic Reduction Plan are:

1. The containment standard for wet weather overflows in the Hutt Valley and Wainuiomata Wastewater Network Catchment, and documents the process followed in setting the containment standard.
2. The prioritised sub-catchments for the development and implementation of Sub-catchment Reduction Plans.
3. The Global Initiatives including policy and regulatory initiatives that apply across the catchment for progressive achievement of the overflow objectives and containment standard to be implemented by the consent holder.
4. The option for the consent holder to investigate its feasibility for achieving or contributing to achieving the Zero Overflow Aspirations.
5. The timeline for the submission and implementation of Sub-catchment Reduction Plans

The process for developing the Strategic Reduction Plan and subsequent updates are described in the following sections and in the methodologies attached to the consent conditions.

5.1.2 Role of the Wastewater Network Collaborative Committee

The Collaborative Committee will oversee the development of the Strategic Reduction Plan and subsequent updates. For the first Strategic Reduction Plan the Collaborative Committee will:

1. Recommend to the consent holder the prioritised catchments taking into consideration the information set out in Attachment 2: Methodology for Developing the Strategic Reduction Plan to the proposed consent conditions and set out in section 5.1.5.1 below.
2. Recommend to the consent holder the containment standard, while ensuring the process set out in in Attachment 3: Methodology for Developing the Containment Standard and described in section 5.1.5.2 below has been correctly followed.

3. Recommend to the consent holder the Global Initiatives to be funded and implemented to assist in achieving the wastewater network overflow objectives and the containment standard, such as policy changes and education campaigns
4. Recommend to the consent holder the option to be investigated for its feasibility in achieving or contributing to achieving the Zero Overflow Aspirations.

As set out in the proposed consent conditions the consent holder must adopt the recommendations of the Collaborative Committee.

For the subsequent process of updating the Strategic Reduction Plan the Collaborative Committee will:

1. Make recommendations to the consent holder on any changes or additions to the prioritised sub-catchments.
2. Make recommendations to the consent holder on any changes or additions to the Global Initiatives.
3. If the consent holder determines that the option investigated is feasible for achieving or contributing to achieving the Zero Overflow Aspirations, the Collaborative Committee will work with the consent holder on how to develop public, financial, and political support for the implementation of the option. If the option is not considered feasible, the Collaborative Committee will recommend another option for the consent holder to investigate.

The purpose and responsibilities of the Collaborative Committee are specified in the proposed resource consent conditions.

5.1.3 Mana Whenua involvement in the development, implementation and updating of the Strategic Reduction Plan

In addition to the role of Mana Whenua on the Collaborative Committee, Mana Whenua will have a significant role in directly influencing the preparation of the Strategic Reduction Plan for the Collaborative Committee. For the preparation of the Strategic Reduction Plan and subsequent updates it is anticipated that this will include:

1. Informing prioritisation of sub-catchments and updates to the prioritised sub-catchments
2. Support from a Mātauranga Māori expert or other party agreed to by Taranaki Whānui in developing the containment standard.
3. Informing the development of the Global Initiatives and updates.
4. Informing the identification of initiatives for achieving Zero Overflow Aspirations

How this will work in practice remains to be agreed with Mana Whenua. Wellington Water anticipates being able to provide more certainty on these matters at the hearing of this application.

5.1.4 Certification

The Strategic Reduction Plan and subsequent updates will be certified by the GWRC. In certifying the Strategic Reduction Plan and updates, GWRC will need to be satisfied that:

1. The Strategic Reduction Plan has addressed the matters set out in the consent conditions, including:
    a. The preparation of the Strategic Reduction Plan has been undertaken in accordance with Attachment 2: Methodology for Developing the Strategic Reduction Plan to the consent conditions including the setting of the prioritised sub-catchments
    b. The setting of the containment standard has been undertaken in accordance with the Attachment 3: Methodology for Developing the Containment Standard

2. The updates to the Strategic Reduction Plan have been made in accordance with Attachment 2: Methodology for Developing the Strategic Reduction Plan to the consent conditions including updates or changes to the prioritised catchments.

5.1.5 Development of the Strategic Reduction Plan

The development of the key components of the Strategic Reduction Plan are set out as follows.

The purposes of the Strategic Reduction Plan are to:

1. Develop the containment standard
2. Specify the priority sub-catchments
3. Develop, implement and monitor global mechanisms that will ensure the wastewater network overflow objectives and the containment standard are achieved over the term of the consent.

The following section sets out the steps involved in the development of the Strategic Reduction Plan. The methodology for developing the Plan is set out in Attachment 2 of the proposed resource consent conditions.

Figure 5-1 below provides an overview of the steps.

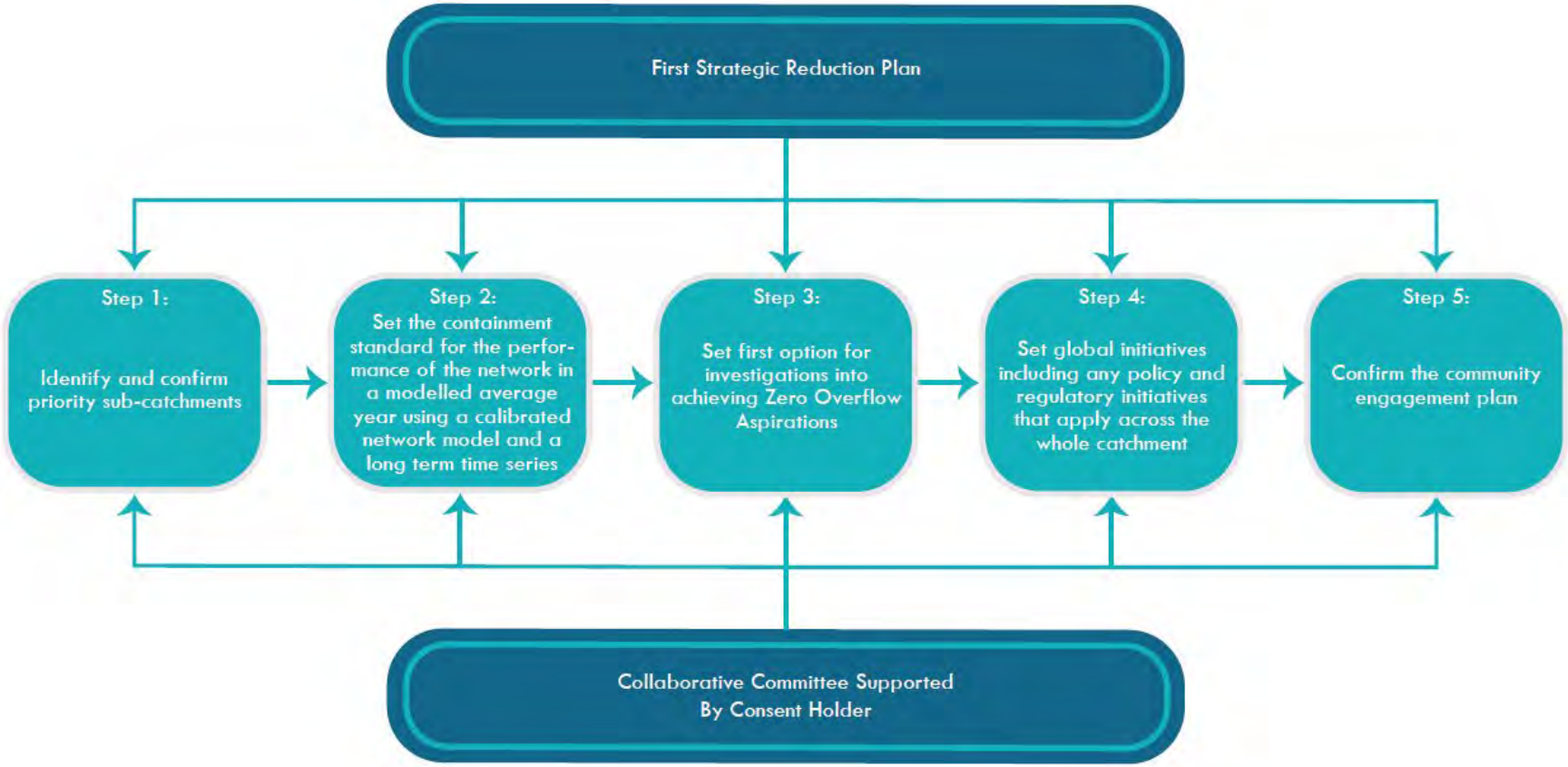

Figure 5-1: Overview of the development of the first Strategic Reduction Plan

Each of the five steps is discussed below.

5.1.5.1 Step 1: Identify and confirm the prioritised sub-catchments

The Collaborative Committee will be responsible for setting the prioritised sub-catchments. This process will be informed by:

1. Section 4 of the Wet Weather Overflows from the Hutt Valley and Wainuiomata Wastewater Networks: Application for Resource Consents and Assessment of Environmental Effects, Part 2 Report.
2. Cultural Impact Report: Hutt Valley Wastewater Overflows Consenting Te Awa Kairangi / Hutt & the Wainuiomata Rivers and their tributaries, Raukura Consultants.
3. Wastewater Network Overflow Objective c. - The reduction of wet weather overflows is prioritised in sub-catchments where the overflows are having an adverse effect on Mana Whenua sites of significance.
4. Modelling updates.
5. Investment opportunities.
6. Sequencing to ensure that the containment standard is achieved in all sub-catchments by the expiry of the consent.
7. Feedback from engagement on the preparation of the Strategic Reduction Plan from the global engagement group, the consent holders, asset owners, asset investors and mana whenua.
8. Works that will benefit more than one sub-catchment
9. Programmed and funded wastewater and stormwater network improvement works and initiatives, including wastewater treatment plant capacity upgrades, or timing and development of stormwater catchment management plans.
10. Growth locations.
11. Schedules C, F and H of the Natural Resources Plan.
12. Any other relevant information

The Collaborative Committee will recommend the prioritised sub-catchments and the consent holder will adopt the recommendation of the Collaborative Committee.

5.1.5.2 Step 2: Set the containment standard - overview

Containment standards are a useful tool for determining the current level of network performance in relation to overflows and:

1. If it should be improved
2. How it can be improved
3. If it has improved post implementation.

One containment standard will be set for the Hutt Valley and Wainuiomata wastewater networks catchment as part of the preparation of the Strategic Reduction Plan.

The containment standard shall be achieved as soon as possible within the available budgets and must be achieved over the term of the consent (proposed to be 35 years). Establishing a containment standard to be achieved over the consent term does not prevent a more aspirational standard being set beyond the term of the consent, to provide for continuous improvement in the long term. If a shorter duration of consent is set, then the containment standard will not be met across all sub catchments.

The containment standard will:

1. Inform the scope, priorities and timing of implementation programmes, particularly the capex investment

2. Enable objective assessments of individual events and overall network performance in relation to overflows against a well-defined standard
3. Provide transparency and objectivity to network management
4. Help to assess the ability to service growth and identify what is required to service future growth.

The term 'containment standard' is defined in the proposed consent conditions and means a targeted frequency of wet weather overflows, to be achieved over time under this consent, expressed as the number of times per year that an overflow event occurs at each discharge location, and measured based on average annual weather conditions as simulated by a computer model that is calibrated and verified periodically (which may differ from the actual number of times that overflows occur at a discharge location in a given year).

Performance against the containment standard needs to be assessed using an up to date and reliable (calibrated and verified) network model developed using long-term time series (LTS). Using a LTS, a model that reliably represents natural and human influenced hydrology (e.g. evapotranspiration, soil moisture, varying groundwater levels, etc.) (which affects I&I rates), and statistical analyses of the model outcomes (overflow events), provides a more robust understanding of system performance including overflow frequencies, volumes and duration. This is important in order to differentiate between the containment standard based on long-term performance objectives and events caused by extreme/infrequent weather.

5.1.5.3 Step 2: Set the containment standard - establishment

The containment standard shall be developed by the consent holder with support from a Mātauranga Māori expert or other party agreed to by Taranaki Whānui and with oversight from the Collaborative Committee. It will be the responsibility of the Collaborative Committee to recommend the containment standard to the consent holder. It is proposed that the recommendations of the Collaborative Committee will be informed by:

1. A cost benefit assessment to identify the costs (estimated financial cost) and benefits (reduced overflow frequency) for a range of containment standards. Previous experience suggests that this analysis will show a diminishing returns relationship as shown in the Black Creek example in section 4
2. Further testing of a range of containment standards identified from the cost benefit exercise by assessing the anticipated environmental effects of the network performing in accordance with the containment standards. The assessment of effects will be based on the Methodology for the Assessment of Effects of Wet Weather Wastewater Overflows in the proposed consent conditions wastewater and through applying the information from the CIA and advice from Mana Whenua
3. Funding capacity in the consent holder's long term financial plan.

5.1.5.4 Step 2: Set the containment standard - process

Figure 5-2 below provides a summary of the steps to be followed by the consent holder, Mana Whenua and the Collaborative Committee in developing the containment standard for the wastewater network catchment.

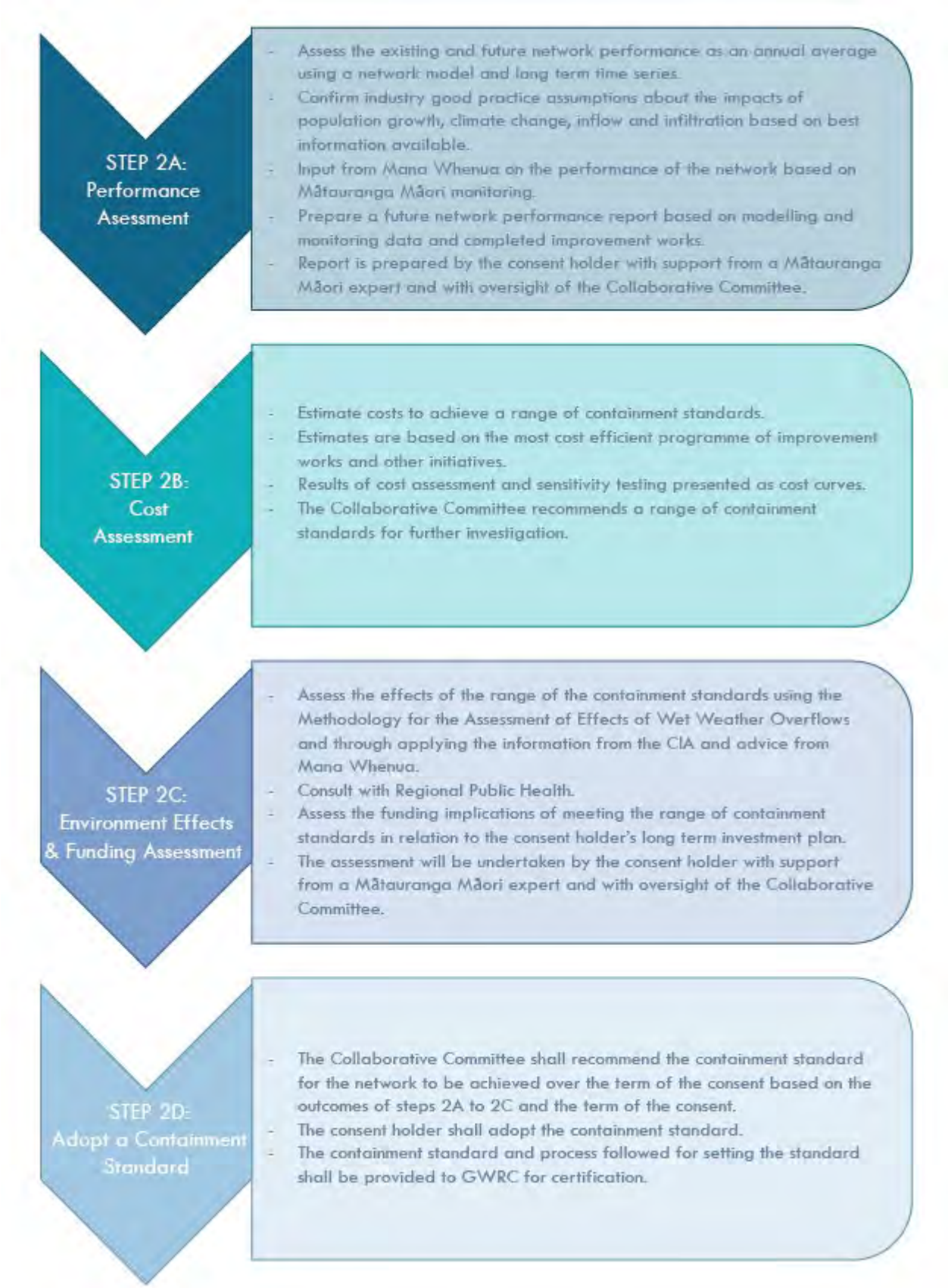

Figure 5-2: Steps for setting the containment standard

The following describes in more detail the steps to be followed by the consent holder and the Collaborative Committee for determining the containment standard.

The first two steps have been through a pilot process with the Black Creek containment study work. The cost curve that resulted can be seen in section 4.6.1.

Step 2a: Assess the performance of the wastewater network

This step involves the application of network models and monitoring data to assess the performance in relation to overflows of the wastewater network.

The current and future (without further improvement) network performance in respect of wet weather overflows is to be assessed as an annual average using an up to date and reliable (calibrated) network model and a long-term time series as a statically robust and comparable assessment method.

The modelling shall include assumptions relating to future population and economic growth, climate change and inflow and infiltration that are based on good industry practice and best information available.

Monitoring data relating to discharge frequency and volume shall be used to assist with the validation of the network model. The network models shall be updated regularly. Reporting on the network performance shall include:

1. The performance of the existing network as well as predictions for future network performance (under a do-nothing scenario). This information will provide the baseline against which the performance of improvement programme is compared
2. Overflow frequencies and volumes (annual average, based on network modelling using a long-term rainfall data series) per location, per wastewater catchment and per receiving environment
3. The extent to which a containment standard is met (once available)
4. Indicators on inflow and infiltration (per catchment)
5. Changes in performance relative to previous performance assessments
6. Actual wet weather overflow occurrences based on telemetry or other reporting (e.g. complaints) and a general analysis comparing the modelled performance with the actual performance
7. Input from Mana Whenua on the performance of the network based on Mātauranga Māori monitoring or advice from a Mātauranga Māori expert if monitoring information is not available
8. The forecast impact on wet weather overflows of proposed improvement works including inflow and infiltration initiatives.

The network performance report performance in relation to overflows will be prepared by the consent holder with support from a Mātauranga Māori expert and with oversight from the Collaborative Committee. It shall be provided to GWRC when the containment standard is submitted for certification.

Step 2b: Develop cost assessment

This step involves determining the high-level costs of meeting a range of containment standards.

High level costs for a range of containment standards will be assessed using cost optimisation processes to identify the most cost-effective combinations of network improvement works and other initiatives (policies, bylaws, community initiatives etc.) to meet a containment standard. This shall be undertaken for all containment standards to be considered. Cost optimisation will consider a range of network improvements and other initiatives, such as:

1. Network storage
2. Network capacity (pipes, pump stations, treatment plants)
3. Network configuration; redirecting flows and reconfiguring service areas of treatment plants, pump stations or other parts of a network and real time controls
4. Inflow and infiltration reduction programmes

5. Network demand strategies (reducing water usage etc.)
6. Management of new developments.

Annual average wet weather overflow frequency shall be the primary attribute used as the 'unit' for determining benefit, however reduction in volumes can also be applied.

The cost benefit analysis shall investigate the costs to achieve a range of a wet weather containment standards in the range from one overflow per three months to one overflow in two years on average. It should also include commentary on the limitations and constraints in network performance modelling for wet weather events with a high ARI.

Total cost (Capex and OPEX over the term of the consent) shall be used as the unit for determining the cost of each containment standard.

Sensitivity testing shall be undertaken to determine how sensitive the solutions and related costs of meeting different containment standards are to changes in key assumptions. Assumptions to be tested include:

1. Climate change
2. Population and economic growth, including rate of growth and location
3. Inflow and infiltration, including the effectiveness of rehabilitation works in reducing Inflow and Infiltration
4. Cost assumptions, including energy costs and the cost of materials and labour
5. Accuracy or reliability of network performance modelling for large unusual wet weather event ARIs.

The results of the cost assessment and sensitivity testing shall be presented as a cost curve(s) with the benefits expressed as a percentage improvement so that 100% will represent no-overflows. A report shall be prepared and presented to the Collaborative Committee that:

1. Details the methodology followed in establishing the containment standard costs curve
2. Includes information relating to the reliability of the outcomes or uncertainties in areas where the confidence in the network model is limited
3. Presents the cost curve(s)
4. Makes recommendations on a range of containment standards for further assessment under Step 2c.

The report shall be prepared by appropriately experienced expert(s) so that the analysis follows good industry practice and the Methodology for Setting the Containment Standard set out in the proposed consent conditions.

The Collaborative Committee shall recommend to the consent holder containment standards for further assessment.

The report on the cost assessment and the Collaborative Committee's recommendations shall be provided to the GWRC when the containment standard is submitted for certification.

Step 2c: Assess the effects of a range of containment standards and funding implications

This step involves assessing the potential environmental effects of the wastewater network performing in accordance with containment standards recommended in Step 2b.

This assessment shall be based on the Methodology for the Assessment of Effects of Wet Weather Wastewater Overflows contained in the proposed consent conditions and through applying the information from cultural values assessments and advice from Mana Whenua.

The assessment is not intended to be a complete re-assessment of the potential environmental effects but will build on the AEE completed for the application and shall be undertaken by appropriately experienced experts including a Mātauranga Māori expert or other party agreed to by Taranaki Whānui.

Mana whenua shall be invited to actively participate in the cultural component of the assessment of effects or nominate a consultant to complete this assessment on their behalf.

Regional Public Health will be invited to provide feedback on the public health component of the assessment of effects. This feedback shall be reported to the Collaborative Committee and to GWRC as part of the containment standard certification process.

The funding implications of meeting the range of containment standards shall be analysed with respect to the consent holder's long term investment plan.

Step 2d: Adopt the containment standard

The Collaborative Committee shall recommend the containment standard for a wastewater network catchment to the consent holder. The recommendation shall be based on the outcomes of steps 2a to 2c and the term of the consent.

The consent holder shall adopt the recommendation of the Collaborative Committee.

The containment standard for a wastewater network catchment and the process followed for setting the standard shall be provided to the GWRC for certification.

5.1.5.5 Step 3: Initiatives for achieving Zero Overflow Aspirations

The consent holder with support from a Mātauranga Māori expert or other party agreed to by Taranaki Whānui shall put forward a list of options for the consideration of the Collaborative Committee. Each option must represent a different type of wastewater system that potentially could achieve or contribute to achieving the Zero Overflow Aspirations. The Collaborative Committee shall consider the options and recommend to the consent holder the option to be investigated.

5.1.5.6 Step 4: Global Initiatives

These initiatives are to contribute to the achievement of the containment standard and the wastewater network overflow objectives across the wastewater network catchment. The initiatives shall be developed by the consent holder with support from a Mātauranga Māori expert or other party agreed to by Taranaki Whānui and oversight from the Collaborative Committee. The initiatives may include global improvement works, global policy and regulatory initiatives that apply across the wastewater network catchment, such as requirements for new connections to the wastewater network or policy approaches to accommodating growth while managing overflows, and education programmes.

The Collaborative Committee shall recommend the Global Initiatives for funding and implementation. The consent holder shall adopt the recommendation.

5.1.5.7 Step 5: Community engagement

This sets out how the consent holder will engage with the community and Mana Whenua on initiatives and interventions across the wastewater network catchment and the establishment and role of the globally focussed community group. It will be based on the information in section 4.7 of this application.

5.1.5.8 Timeline for the submission of Sub-catchment Reduction Plans

Based on the prioritised sub-catchments, the consent holder shall set out the order for the submission of the Sub-catchment Reduction Plans to GWRC for certification and a timeline for the submission of the plans to ensure the timeframes set in the consent conditions are met.

5.2 SIX YEARLY UPDATES OF THE STRATEGIC REDUCTION PLAN

The purpose of the six yearly updates[7] of the Strategic Reduction Plan is to ensure ongoing progress in achieving the containment standard and overflow objectives over the term of the consent at a global level.

The components of the Strategic Reduction Plan to be updated are set out below:

5.2.1 Updates to the prioritised sub-catchments

The Collaborative Committee shall recommend any updates to or changes in the order of the prioritised sub-catchments and the consent holder shall adopt the recommendation of the Collaborative Committee.

To determine whether updates or changes to the order of the prioritised sub-catchments listed in the Strategic Reduction Plan are required, the Collaborative Committee shall consider:

1. Monitoring results including mātauranga Māori monitoring.
2. Wastewater Network Overflow Objective c. - The reduction of wet weather overflows is prioritised in sub-catchments where the overflows are having an adverse effect on Mana Whenua sites of significance.
3. Modelling updates required by the consent conditions.
4. Wet weather overflow records.
5. Annual Reports.
6. Any updates to the information the Collaborative Committee had to consider in preparing the first Strategic Reduction Plan.

5.2.2 Update of the Global Initiatives

The consent holder with support from a Mātauranga Māori expert or other party agreed to by Taranaki Whānui and oversight from the Collaborative Committee shall consider the effectiveness of the current Global Initiatives in contributing to progressing the achievement of the containment standard across the wastewater network catchment and propose any changes to the initiatives or include any additional initiatives.

The Collaborative Committee will consider the proposals of the consent holder and recommend any changes or additions to the Global Initiatives. The recommendation shall be adopted by the consent holder.

5.2.3 Review of initiatives for achieving Zero Overflow Aspirations

The consent holder shall present its findings on the option of a different type of wastewater system that potentially could achieve or contribute to achieving the Zero Overflow Aspirations selected by the Collaborative Committee for investigation. If the consent holder has found the option to be feasible, the Collaborative Committee will work with the consent holder on how to develop public, financial, and political support for the implementation of the option and no further options will be investigated. If the option is not considered feasible, the Collaborative Committee will recommend another option from the list for the consent holder to investigate.

[7] It proposed to provide flexibility in the conditions to enable these to occur more frequently if that better aligns with the financial cycle of the consent holder in the future.

5.2.4 Update timeline for the submission of Sub-catchment Reduction Plans

The consent holder shall update the order and timeline for the submission of the Sub-catchment Reduction Plans to the GWRC for certification to reflect any updates to prioritised sub-catchments and to ensure the timelines set in the consent conditions are met.

5.3 SUB-CATCHMENT REDUCTION PLANS

5.3.1 Overview

To achieve the containment standard and the wastewater network overflow objectives over the term of the consent, a Sub-catchment Reduction Plan will be prepared for each sub-catchment. The preparation of the plans shall commence once the prioritised sub-catchments have been recommended by the Collaborative Committee and adopted by the consent holder as part of the development of the Strategic Reduction Plan. As discussed above the timelines for submitting the Reduction Plans for certification by GWRC shall be set out in the Strategic Reduction Plan.

The development of the Sub-catchment Reduction Plan shall be in accordance with the Attachment 4: Methodology for Developing Sub-catchment Reduction Plans to the proposed consent conditions. The consent holder with support from a Mātauranga Māori expert or other party agreed to by Taranaki Whānui and oversight from the Collaborative Committee shall prepare the Sub-catchment Reduction Plans.

Once a Sub-catchment Reduction Plan has been prepared, the Collaborative Committee shall review the plan and recommend any changes or additions it considers are required to ensure the containment standard will be met and the wastewater network overflow objectives are achieved in the sub-catchment.

The consent holder shall adopt the recommendations of the Wastewater Network Collaborative Committee.

5.3.1.1 Developing the Sub-catchment Reduction Plan

This involves determining physical improvement works and other initiatives (such as local bylaws, procedures or specific community campaigns) to be included in Sub-catchment Reduction Plans.

The Sub-catchment Reduction Plan shall include:

1. Any targeted receiving environment investigations and modelling projects.
2. Proposed short, medium and long term options for physical improvement works to meet the containment standard.
3. The cost of potential improvement works and other initiatives taking into account the consent holder's budget.
4. A programme of works and initiatives required for the sub-catchment to ensure the containment standard is met, including a timeline for meeting the containment standard.
5. The details of any Global Initiatives to be carried out within or in relation to that sub-catchment.
6. If requested by the Collaborative Committee, a pilot study for the implementation of the option adopted by the consent holder in the Strategic Reduction Plan for achieving Zero Overflow Aspirations.

The following shall be considered when developing the Sub-catchment Reduction Plans:

1. The most cost-effective combinations of network improvement works and other initiatives used in the development of the containment standard that are relevant to the sub-catchment.
2. Information from the sub-catchment community engagement group.
3. The consent holders' other strategic priorities, including growth locations, ongoing renewal programmes, and implementation of the Stormwater Management Strategy and Stormwater Catchment Management Plans.

4. Innovations and technological advances to accelerate meeting the containment standard.

Other factors to be considered in the development of the programme include:

1. The extent of improvement that will be achieved by different improvement works, operational improvements or other initiatives to ensure sufficient progress is made towards achieving the wastewater network overflow objectives and the containment standard. This shall include the predicted change in performance.
2. How once the containment standard has been met in the sub-catchment it will continue to be met.
3. Asset condition including information on aging or deteriorated assets.
4. Identified short term needs for improvement or known acute, localised adverse effects.
5. Any up or downstream effects on network performance.
6. Advances in technology and knowledge about the effectiveness of potential improvement works and other initiatives, including learnings from implementation of other Sub-catchment Management Plans.
7. The ability to futureproof network improvements so that they can be adapted to meet changing assumptions (e.g. climate change, growth) and to provide for resilience.
8. Regulatory / consent requirements related to proposed improvement works.
9. Localised environmental effects (e.g. odour, visual, historic heritage) of proposed improvement works.
10. Opportunities to align with growth.
11. Opportunities to obtain alternate sources of funding.

5.3.1.2 Updates of Sub-catchment Reduction Plans

The Sub-catchment Reductions Plans will not be regularly updated. They can be updated if requested by the Collaborative Committee, which is expected to occur mainly in response to investment constraints causing different options for achieving the containment standards and WNO objectives to be necessary.

If the consent holder updates a certified Sub-catchment Reduction Plan, the changes must have or will achieve the same or similar outcomes to the outcomes intended to be achieved by the certified Sub-catchment Reduction Plan. Changes will need to be certified by GWRC.

5.4 REPORTING

The proposed resource consent conditions will require the consent holder to undertake three types of reporting. These are:

1. Progress reporting which will be undertaken on an annual basis and falls into two categories being reporting on the progress of planning and implementing works in the sub-catchments and reporting on global matters relating to the whole of the wastewater network catchment.
2. Reactive reporting which relates to reporting in response to a wet weather overflow occurring.
3. Triennial reporting which covers reporting on the progress towards meeting the WNO objectives.

The three types of reporting are illustrated in Figure 5-3 and discussed in more detail below.

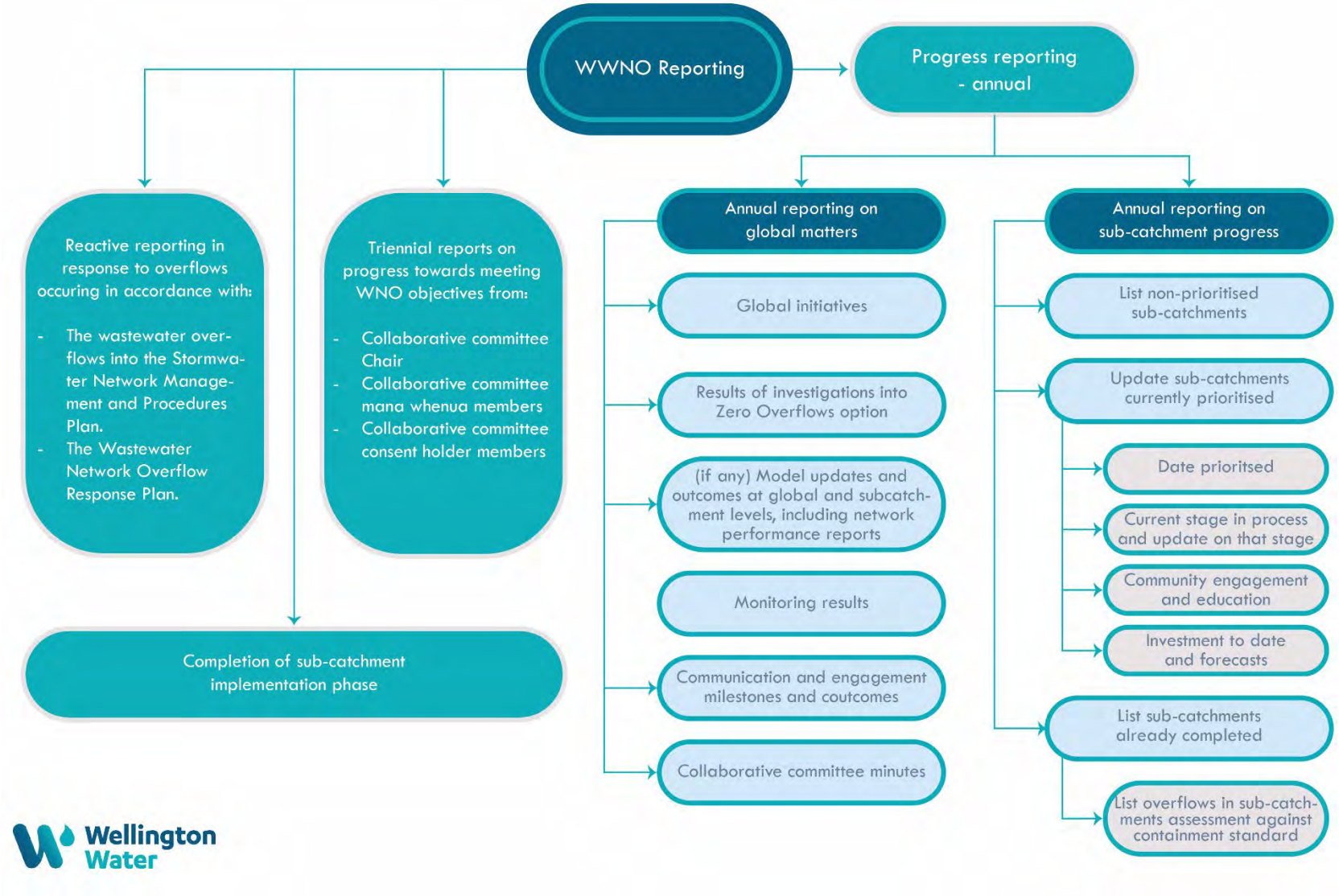

Figure 5-3: Summary of proposed reporting

5.4.1 Progress Reporting

Progress reporting on sub-catchment matters and global matters will be undertaken on an annual basis and will be covered under the annual report. The consent conditions require the consent holder to prepare an annual report and provide this to GWRC within three months of each anniversary of the commencement of the consent.

The progress reporting on sub-catchment matters primarily relates to the progress made in preparing and implementing the Sub-catchment Reduction Plans and includes:

1. The prioritised sub-catchments and the date each sub-catchment was prioritised
2. The sub-catchments that have yet to be prioritised
3. The sub-catchments that have achieved the containment standard
4. Investment to date and forecasted investment in each sub-catchment
5. Community engagement activities and education programmes

Progress reporting on global matters includes:

1. Updates on the implementation of Global Initiatives
2. Results of the investigations of the Zero Overflow Aspiration option
3. Model updates and outcomes at a wastewater network catchment and a sub-catchment level (if any), including network performance reporting if undertaken during the annual report period
4. Record of model calibration and peer reviews (if any)
5. Monitoring results
6. Minutes of all Collaborative Committee meetings
7. Communication and engagement milestones in the annual report period

5.4.2 Response to overflow reporting

This is reactive reporting in response to a wet weather overflow occurring which is required by consent conditions and the reporting procedures are set out in the Wastewater Network Overflow Response Plan. The information (where available) to be reported includes:

1. Overflow type
2. Location and sub-catchment
3. Start date and time, end date and time
4. Duration (hours)
5. Maximum flow (litres/second), mean flow (litres per second)
6. Approximate volume (m3)
7. Cause of discharge
8. Rainfall in the last 24 hours and weather conditions at the time of discharge
9. Any direct contact between the overflow discharge and:
    a. Human food sources (shellfish, watercress, puha etc.)
    b. Drinking water supply sources
    c. Recreation activities
    d. Mana Whenua sites of significance
10. Action taken (including erection of signs, notification of potentially affected persons and general public, clean up actions, sampling, future monitoring instigated)
11. Contact details of the person reporting the notification.

5.4.3 Triennial reporting

Triennial reporting is the reporting undertaken by the Collaborative Committee Chair, Mana Whenua members and consent holder members on the progress made over the previous three years to achieving the WNO objectives. This can be undertaken as a combined report or separately. The report(s) shall be included every three years as part of the annual report.

6.0 MODELLING AND MONITORING

6.1 MODELLING

6.1.1 Wastewater Network Model (Dynamic Model)

Assessing and reporting on the existing and future wastewater network performance will be based upon a calibrated and validated wastewater network model for the Hutt Valley and Wainuiomata wastewater catchment.

Wellington Water has developed a dynamic model that represents the wastewater network. A dynamic model performs calculations to estimate how network properties such as flow, velocity and water level change over time and distance. All key network features including pump stations, storage tanks, and Constructed Overflow Points are represented in the model. Dynamic models are best suited for interpreting network capacity issues over time and understanding future investment needs to support growth and minimise overflows. The dynamic model will form the basis of reporting network performance to inform the setting of the containment standard, determining investment needs, and progress towards meeting consent conditions.

The dynamic model is developed for Wellington Water in accordance with its Regional Wastewater Modelling Specification (current version 2020). As the Specification is revised over time, it is expected that the model will be updated in line with any revision to the Specification.

6.1.2 Model Calibration and Validation Programme

The model will be regularly maintained and calibrated. This is necessary in order to reflect changes in network arrangement and future growth forecasts. The models will be maintained and calibrated in accordance with the Specification.

The gauging and calibration are planned on a rolling programme. This programme can be adjusted if there is high development and growth, or if there are other regulatory requirements or operational issues that have been identified which would trigger a model update and/or recalibration. The purpose of a rolling model programme is to maintain confidence in the model outputs to ensure that decisions on wastewater network improvement works are made with the best available information, and that resources are targeted where they are of most use. This approach also allows for the benefits of completed improvement works to be evaluated.

Key elements of the rolling programme are the calibration, verification, then validation activities. In simple terms:

- Calibration means adjusting the model parameters to represent observed data (from gauging).
- Verification means comparing the calibrated model to an observed dataset that is different (i.e., from a different time period) to the dataset that the model was calibrated against; and
- Validation means comparing the model against longer-term data (usually from a range of sources other than gauging), in order to confirm its ability to represent network performance over an extended period.

More detail is provided below in Table 6-1.

A high-level summary of the modelling programme is provided in Figure 6-1 (indicative only) with a 12-year calibration timeframe. This frequency is dependent on funding, resourcing and network needs and is an accepted timeframe within the industry.

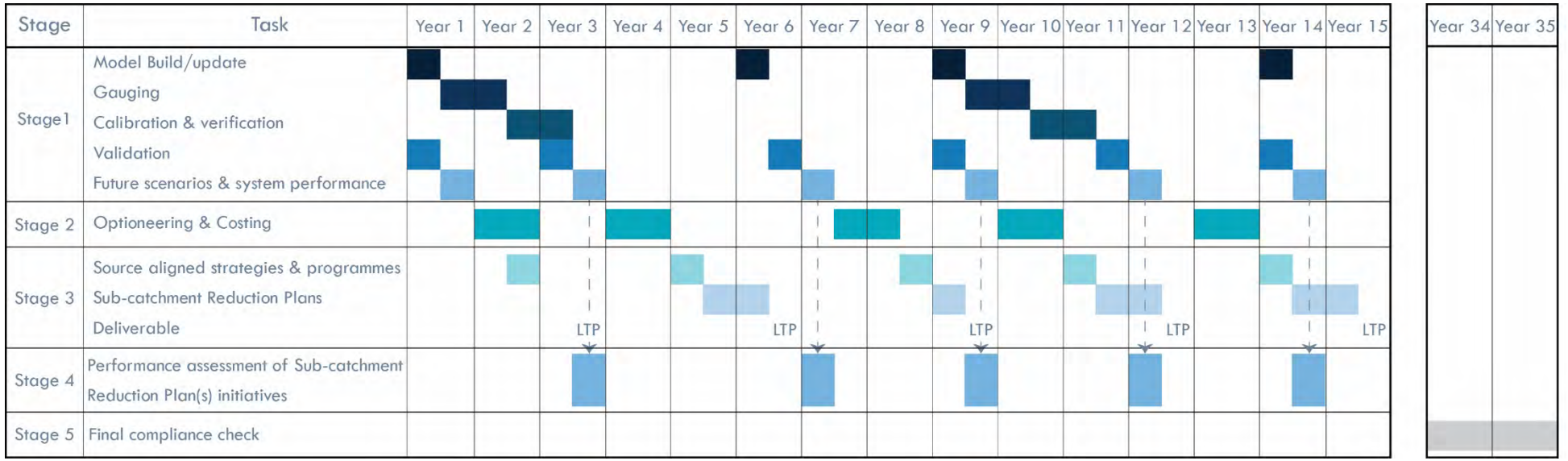

Figure 6-1: Summary of the indicative modelling programme

The key steps are described further in Table 6-1.

Table 6-1: Key Steps in the Modelling Programme

Stage	Task	Description
Stage 1 – Model development	Model build / Update	Update of the model to reflect current to reflect the current state of network and catchment arrangement. This update could include developing model representations of recently completed projects and operational changes. These updates can occur either in isolation or in combination of calibration and verification activities. Often the model update process will be followed by model validation (as opposed to gauging and calibration/verification).
	Gauging	Gauging is undertaken to calibrate a dynamic wastewater model against observed dry and wet weather flows. The observed calibration data is usually of high quality and captured at a sufficient resolution, both temporally and spatially, to enable a representative calibration to be completed. Typically, the observed data is captured over a 3-to-12-month period and should record a range of wet weather events and sufficient dry weather period to enable a representative model calibration to be completed.
	Calibration and Verification	Calibration is the adjustment of model hydrological and hydraulic parameters to represent observed wastewater flows and levels for selected dry and wet weather periods. Model Verification is the process of comparing the calibrated model performance with the observed data. It excludes events that the model has been calibrated against. Its purpose is to demonstrate the representativeness of the calibration.
	Validation	Validation is the process assessing model reliability by reviewing performance over a longer period to that of the calibration observed data period. The validation dataset is usually sourced from a variety of data sources for example long term monitor records, pump station operational records, reported incidents and call outs. Ideally this dataset would cover several years, with a five-year horizon likely to be a practical upper limit due to catchment changes and data quality. This dataset is usually of a much lower quality than the calibration dataset, with the emphasis being on summarising the recorded frequency and scale of wastewater network spills including both constructed and uncontrolled overflows. Typically, the focus of model validation is developing confidence in the model to represent frequency of wastewater network overflows over an extended period.
	Future Scenarios and System Performance	Model assessment to estimate wastewater network performance for a range of development horizons and assumptions around committed network upgrades.

Stage	Task	Description
Stage 2 – Strategic approach	Optioneering and Costing	Model assessment to size and cost a variety of network options e.g. conveyance, storage, inflow and infiltration reduction to provide sufficient capacity to meet targeted containment standards. The output of this assessment should be clear strategic project objectives, programme and the associated indicative funding needed to meet containment standards. Note options developed in this assessment will be high level concepts and require further investigations to scope projects for design and construction.
Stage 3 – Investment planning	Network Overflow Reduction Plan	Developing and prioritising network improvement programme and funding requirements. Options developed in Stage 2 are often expected to require further investigations to scope (including costing refinements) and define. Occurs prior to design and execution.
Stage 4 – Performance assessment	Assess the performance	Once sub-catchment improvements have been implemented the model development work described in Stage 1 will be used to assess the performance of the improvements within a sub-catchment relative to the containment standard.
Stage 5 - Compliance	Final compliance check	Once all sub-catchment reduction plans have been implemented a final model assessment will be undertaken to confirm the network performance relative to the containment standard.

6.1.3 Model Update and Validation Programme

Re-gauging and calibration programme are not common occurrences, due to the expense, resource constraints and expectation that network performance will change gradually. However, model updates and/or validation will occur at higher frequency, in order to have meaningful input into LTP needs. This validation can provide additional confidence that the model is still representative of network performance. Should the model no longer be considered representative then the gauging and calibration programme could be brought forward (depending on funding). This could occur as a result of changes in the catchment due to redevelopment, capital works or operational issues.

For example, some of the circumstances or events that would make an update (and possibly also recalibration) appropriate would be:

1. Material changes to population
2. Material changes to the network
3. Extensive inflow and infiltration work
4. Pipe upgrades.

The models will be updated and validated in accordance with the Specification.

6.1.4 Sources of information

The calibration, validation, and update processes described above are informed by a range of monitoring and other data.

These will generally include:

1. SCADA data
2. Gauging
3. Data from the Regional Council, i.e. rainfall, evaporation
4. Information from the rain radar
5. Reported issues, complaints from public / operational information (Maximo – logs issues in the system.

6.1.5 Peer Review

To provide confidence in the modelled network performance, particularly for our mana whenua partners, our global community engagement group and GWRC as our environmental regulator, an independent peer review of the model will be commissioned for each model gauging and calibration period.

The independent peer review shall be undertaken by a suitably qualified person agreed by the consent holder and GWRC. The purpose of the peer review is to:

1. Ensure the calibration of the model has been undertaken in accordance with the most recent version of the Wellington Water Wastewater Regional Modelling Specifications.
2. Ensure the model is representative and will deliver the requirements specified in the consent conditions.
3. Recommend any improvements to the model.

It is intended that the peer review is a collaborative process between the peer reviewer and the consent holder. The peer reviewer would be invited to have involvement and provide feedback at each key step of the process, including:

1. Model Build/Update
2. Gauging
3. Recalibration / Calibration and Verification
4. Validation
5. Future Scenarios and System Performance
6. Optioneering and Costing
7. Development of the WNO Reduction Plan.

6.2 MONITORING

The proposed monitoring has been referenced in various earlier sections of this application. The following sub-sections bring this information together. Overall, Wellington Water is proposing that three main types of monitoring are undertaken under the conditions of the WNO consent. These are:

1. Mātauranga Māori monitoring, which is reliant on working closely with and supporting mana whenua
2. Receiving environment monitoring through the monitoring plan that is implemented and reviewed under Wellington Water's global stormwater consent

3. Wastewater network monitoring that focuses on overflow location and frequency, and on rainfall derived inflow and infiltration.

6.2.1 Mātauranga Māori monitoring

Wellington Water anticipates working closely with Mana Whenua and GWRC (as the programme lead) to monitor the effects of wastewater (and stormwater) network on Mana Whenua values. A specific programme of monitoring based on Mātauranga Māori is expected to be undertaken by all three parties and is expected to involve:

1. Mātauranga Māori monitoring of effects on Mana Whenua values, mahinga kai, customary use, and Mana Whenua sites of significance.
2. In undertaking the reviews of the WNO Reduction Plan, Mana Whenua's role will include:
    a. Assessing the previous performance of the network using Mātauranga Māori monitoring of effects on Mana Whenua values, mahinga kai, customary use, Mana Whenua sites of significance.
    b. Informing the review of the state of the priority receiving environments.
3. Support from a Mātauranga Māori expert in assessing progress towards achieving the wastewater network overflow objectives and the containment standard.
4. Support from a Mātauranga Māori expert in reviewing and updating the wastewater network overflow reduction programme and priorities.

Details of the monitoring and how it will be delivered remains to be determined with Mana Whenua and GWRC. While GWRC will be the lead agency, Wellington Water anticipates having a key role and being able to provide more certainty (including proposed consent conditions) on these matters at the hearing of this application.

6.2.2 Existing receiving water monitoring

Under its stage 1 global stormwater consent (WGN180027 [34920]), Wellington Water has prepared and is in the process of implementing a Stormwater Monitoring Plan. The Stormwater Monitoring Plan is intended to have a five year lifespan to develop a baseline of information. After five years (November 2025), Wellington Water will complete a full review of the plan and submit a revised plan for certification by the Regional Council. This review will likely occur under the conditions of Wellington Water's stage 2 stormwater consent. The application for the stage 2 stormwater consent will be lodged in 2023.

As part of this monitoring plan review process, Wellington Water proposes that a single, integrated monitoring plan is developed which covers the stormwater consent and all three wastewater network overflow consents. It considers that an integrated monitoring approach will be both more efficient and will ensure that the data gathered is fit for purpose.

A placeholder for monitoring has been included in the proposed consent conditions These conditions will be developed with GWRC officers prior to the hearing on this application taking account of the needs of the stormwater consent and the wastewater network overflow consents.

6.2.3 Wastewater network monitoring

To support the consent Wellington Water proposes to undertake two wastewater network monitoring elements.

The first element is the monitoring of overflow frequency from controlled and uncontrolled overflow points. The approach that is currently taken to this monitoring, and which Wellington Water proposes to continue is set out in section 3.1. This monitoring will be adaptive so that it can be adjusted to meet

modelling requirements as various sub catchments are prioritized, and in response to technological improvements (e.g. real time monitoring and smart manholes).

The second key element of the network monitoring will seek to measure the rain derived inflow and infiltration (RDII). RDII data is important information for validation and calibration of the network models but the need for it may reduce as the network modelling becomes more advanced. Again, enabling an adaptable approach to this element of monitoring is important to enable Wellington Water to take advantage of improved technologies and to ensure monitoring serves the model needs.

7.0 EFFECTS ASSESSMENT METHODOLOGY

7.1 OVERVIEW

The methodology used to assess the environmental effects of overflow discharges is described in detail in section 2 of the Part 2 Report and in the support document Methodology for the Assessment of Effects of Wet Weather Wastewater Overflows December 2020.

A high-level overview is presented in Figure 7-1 below. In general terms the assessment for each individual overflow point includes:

1. Identification of the receiving environment (direct, secondary and ultimate)
2. Establishment of receiving environment type (small waterway, medium waterway, large waterway, estuary, etc)
3. Identification of receiving environment values (recreational, ecological, cultural and aesthetic)
4. Determination of overflow characteristics (overflow volume and frequency ranges)
5. Assessment of potential magnitude and risk of adverse effects (public health, aquatic ecology, cultural values and aesthetic)
6. Assessment of potential cumulative effects.

Figure 7-1: Overview of the methodology for assessing the level of adverse effects from wet weather overflows

7.2 SUMMARY OF ASSESSMENT METHODOLOGY

The WNO assessment of effects methodology is conducted in a series of steps, as set out below. We have provided a worked example, Waiwhetū Stream, to help illustrate the process.

7.2.1 Step 1 Identify receiving environment

Step 1 is the identification of the receiving environment for each individual overflow. It involves tracing the discharge from the wastewater network overflow point to the receiving environment. This step is automated in GIS and then checked visually by mapping.

7.2.2 Step 2 Establishment of receiving environment type

Once the receiving environment for each overflow is determined it is then classified as one of eight types. The receiving environment type is an important factor in determining the available dilution and potential magnitude of adverse effect. The receiving environment types are:

- Small waterway (order 1 or 2, <100 L/s)
- Medium waterway (order 3 or 4, 100 to 1000 L/s)
- Large waterway (order 5 or greater, >1000 L/s)
- Lake
- Estuary
- Beach (including open coast)
- Inner Harbour (sheltered, partially enclosed)
- Outer harbour (semi exposed).

These receiving environment types are based on those proposed by Moores et al (2013) for Auckland, but several amendments have been made to better represent the Wellington situation:

a) A "Medium Waterway" type has been added to the "Small" and "Large" categories to better represent the wider size range of waterways in Wellington (there are no 5th order waterways in the Mangere catchment while Wellington has several 5th order rivers).

b) The "Harbour" type has been split into "Inner Harbour" and "Outer Harbour" to represent the difference between the more enclosed waters of Evans Bay and Lambton Harbour, compared to areas more directly connected to Cook Strait.

Receiving environment types and size thresholds are otherwise the same as those used by Watercare in Auckland.

7.2.3 Step 3 Classification of receiving environment values

Information is compiled for each receiving environment from a variety of sources and used to describe the physical characteristics and current state of the environment. Where data allows the current state is benchmarked against pNRP objectives and NPS-FM attribute states. The environment is then rated in respect of recreational, ecological, cultural, and aesthetic values.

Worked example – asset ID 8, Waiwhetū Stream

Table 7-1 below provides a summary of the *E. coli* data collected from the stream, including how many samples have been collected, the percentage of samples that exceed triggers, and how it compares to both the National Policy Statement for Freshwater and the Regional Plan (pRNP) expectations. Overall, it is intended to provide a snapshot of water quality at this sampling point.

Table 7-1: Summary Statistics for *E. coli* in the Waiwhetū Stream at Whites Line East (data 2015-2020)

Site name	N samples	% Exceeding 540 cfu/100ml	% Exceeding 260 cfu/100m	Median concentration cfu/100m	95th percentile cfu/100ml	NPS-FM Attribute State	pNRP O18(95th %ile ≤540)
Whites Line East	65	57	77	700	10,800	E	Not meeting

Table 7-2 describes the stream by various attributes.

Table 7-2: Summary of Waiwhetū Stream Receiving Environment Characteristics and Values

Receiving Environment Name	Type	Recreation value	Ecology value	Cultural value	Aesthetic value
Waiwhetū Stream	Medium waterway	Class 3 (Full contact recreation is not likely)	Class 3 (Highly modified)	Class 1 (Very important)	Class 1 (High value)

7.2.4 Step 4 Determination of WNO Characteristics

Determination of WNO characteristics is based in either monitoring data or output from modelling of the wastewater network. It includes the following:

a) Overflow volume and frequency (high, medium, low).

b) Spatial distribution of overflow points (receiving waters affected by single or multiple overflow points).

Worked example – asset ID 8, Waiwhetū Stream

Table 7-3 describes the type of overflow, its estimated volume and frequency and the source of the data.

Table 7-3: Summary of Overflow Characteristics, Waiwhetū Stream

Overflow ID	Direct/indirect	Volume (m^3)		Frequency (per year)		Status	Data Source
		(m^3)	Range	Number	Range		
(8)	Direct	-	Medium	12	High	Operative	Wellington Water Scada 2012-2020, Seaview Strategic Wastewater Model

Note: There are multiple WNOs to Waiwhetū Stream but for simplicity only WNO (8) is shown.

7.2.5 Step 5 Assessment of Potential Effects

5(a) Public Health Effects

The methodology for assessing public health effects is based on an approach developed by Moores, et al, (2013) and Watercare (2013) specifically for the purpose of determining the potential effects of wet weather overflows from the wastewater network on aquatic receiving environments. The assessment methodology focuses on contaminant load and concentration, and is based on a three-step process that:

a. considers the potential physical, chemical and biological changes generated by wastewater overflows.

b. determines the potential magnitude of effect which arises from these changes and the characteristics (type and values) of the receiving environment. A NIWA expert panel identified, assessed, and scored each of the potential effects. In total there are 54 variations of public health effects, which have been summarised as pre-written text in Appendix B of the Assessment of Effects Methodology included with the consent conditions.

c. Determines the overall level of adverse effect by combining the magnitude of effect and frequency of occurrence, the latter based on historic data and/or modelling.

Worked example – Waiwhetū Stream

Waiwhetū Stream is a water body in which full contact recreation activities are unlikely to occur, i.e., it has 'Class 3 recreational value'[8]. A 'Medium' volume discharge to a 'Medium waterway' with 'Class 3 recreational values' is assessed as having a 'Low' potential effect on all recreational activities, as detailed in Table 7-4. The above combination of factors automatically determines the 'magnitude of public health effect' assessment score and text included.

Table 7-4 describes the potential magnitude of effect from a single overflow event but does not consider the frequency of occurrence. The combination of the magnitude of the event and the frequency of occurrence determines the overall level of effect. In this case, although the magnitude of effect is 'Low', overflows have historically occurred very frequently at site 8, resulting in an overall level of public health effect of 'Moderate'.

Table 7-4: Magnitude of Public Health Effects from Overflows to Waiwhetū Stream

Potential Effect	Magnitude of Public Health Effect
Loss of suitability for contact, partial contact recreation, fishing or harvesting watercress	**Low potential effect (Effects Score of 2)** on all recreational activities, because the value 75verall75zation indicates that contact or partial contact recreation, shellfish collecting, fishing and/or watercress collecting are unlikely to occur.

Table 7-5: Overall Level of Public Health Effects in Waiwhetū Stream

Overflow ID	Direct/Indirect	Potential Magnitude of Public health Effect	Overflow Frequency Range	Overall Level of Public Health Effect
4, 5, 9, 10, 12	Direct	Very low	Low	Very low
(8)	Direct	**Low**	High	**Moderate**
6, 7, 72, 73	Direct	Very low	Low	Very low
11	Direct	**Low**	Medium	Low
78	Direct	Very low	Low	Very low

5(b) Assessment of Magnitude of Ecological Effects

The assessment methodology for ecological effects is similar to that described above for public health effects. It focuses on contaminant load and concentration, and is based on a three-step process which:

a. considers the potential physical, chemical and biological changes generated by wastewater overflows.

b. determines the potential magnitude effect which arises from these changes and the characteristics (type and values) of the receiving environment. In total 54 variations of ecological effects have

[8] Class 1 recreational value is 'high', Class 2 is 'moderate' and Class 3 is 'low'.

been determined by an expert panel (Moores, et al, 2013), which are summarised as pre-written text in Appendix C of the Methodology report.

c. Determines the overall level of adverse effect by combining the magnitude of effect and frequency of occurrence, the latter based on historic data and/or modelling.

Worked example – Waiwhetū Stream

Waiwhetū Stream is assessed as a highly modified/disturbed water body. 'Medium' volume discharges to 'Medium' waterways, with Class 3 ecological values, are assessed as having a range of Very Low to Low magnitude of effect on ecological values, as shown in Table 7-6.

In situations where potential magnitude of ecological effect range across more than one effects score, the overall magnitude of effect (for a single discharge) is determined by the dominant (highest) effects score, which is then combined with overflow frequency to generate the overall level of effect. In this case, the magnitude of ecological effect is 'Low'. The above combination of factors automatically determines the effects assessment text included in Table 7-6.

The overall level of ecological effect is summarised in Table 7-7. The overall level of effect is defined as the combination of the magnitude and likelihood (frequency) of an event. In this case the magnitude is low but the frequency of overflow is high, giving an overall level of ecological effect of 'Moderate'.

Table 7-6: Magnitude of Ecological Effects of Overflows to Waiwhetū Stream

Potential Effect	Magnitude of Ecological Effect
Change in physical habitat suitability	**Effects Score of 2 (Low)**, because of the high degree of background disturbance in these streams.
Relatively frequent toxic concentrations of NH_4, sulphide, metals, and nitrate.	**Effects Score of 2 (Low),** because of the high degree of background disturbance in these streams.
Change in community structure/loss of sensitive species	**Effects Score of 2 (Low)**, because of the high degree of background disturbance in these streams.
Behavioral changes in fin fish	**Effects Score of 1 (Very Low)**, because of the high degree of background disturbance in these streams.
Increase in nuisance plants	**Effects Score of 1 (Very Low)**, because of the generally short residence time of elevated nutrient concentrations and other constraints on plant growth.
Reduced quantities of fin fish	**Effects Score of 2 (Low),** because of the high degree of background disturbance in these streams.
Growth of sewage fungus/Beggiatoa	**Effects Score of 2 (Low),** because BOD enrichment is unlikely to add to the potential for the growth of these organisms.

Table 7-7: Overall Level of Ecological Effects in Waiwhetū Stream

Overflow ID	Direct/Indirect	Potential Magnitude of Ecology Effect	Frequency Range	Overall level of Ecological Effect
4, 5, 6, 7, 9, 10, 12	Direct	**Low**	Low	Very Low
8	Direct	**Low**	High	**Moderate**
6, 7, 72, 73	Direct	**Low**	Low	Very Low
11	Direct	**Low**	Medium	Low
78	Direct	**Low**	Medium	Low

5(c) Assessment of Potential Cultural Effects

Potential cultural effects are determined from receiving environment cultural value class (1 or 2) and overflow volume range (low, medium, or high). The overall level of cultural effects is directly linked to overflow frequency (i.e., if the overflow frequency is high the level of adverse effect is high).

Worked example – Waiwhetū Stream

Waiwhetū Stream is assessed as having 'Very Important' cultural values (Class 1), the overflow discharges are 'Medium' volume, and the magnitude of cultural effects for a single discharge are assessed as 'High' (Table 7-8). Because the overflows occur at a 'High' frequency, the overall level of cultural adverse effects is also assessed as 'High' (Table 7-9).

Table 7-8: Cultural Effects Scale

Overflow Volume Range	Cultural Receiving Environment Class	
	Class 1: Very Important	Class 2: Important
High	Very High	High
Medium	High	Moderate
Low	Moderate	Low

Table 7-9: Overall Level of Cultural Effects

Overflow Frequency Range	Potential Cultural Effect			
	Very High	High	Moderate	Low
High	High	High	High	High
Medium	Moderate	Moderate	Moderate	Moderate
Low	Low	Low	Low	Low

5(d) Assessment of Potential Aesthetic Effects

The assessment of effects on aesthetic values relates to the loss of aesthetic enjoyment because of clearly visible and identifiable residue from wastewater overflows (visual effects) and readily detectable smell (odour effects). Visual and odour effects are primarily experienced by people and therefore these effects relate to public access. Where the location of the overflow is directly accessible or adjacent to a residential area there is potential for aesthetic effects to occur. The assessment is limited to two aesthetic value classes based on the level of public access – high or low (aesthetic effects only occur if people are there to experience them).

a. The assessment of the magnitude of effects is based on receiving environment aesthetic value class (level of public access) & overflow volume range.

b. The overall level of effect is determined from magnitude of effect and the frequency range.

Worked example – Waiwhetū Stream:

Waiwhetū Stream is assessed as having 'high' aesthetic value as the level of public access in high. 'Medium' volume discharges to such an environment have a 'high' potential to affect these values. Because overflows occur with a 'high' frequency, the overall level of effect is assessed as being 'high' (Table 7-10 and 7-11).

Table 7-10: Aesthetic Effects Scale

Overflow Volume Range	Aesthetic Receiving Environment Class	
	Class 1: High Value	Class: Low Value
High	High	Low
Medium	High	Low
Low	High	Low

Table 7-11: Overall Level of Aesthetic Effects

Overflow Frequency Range	Potential Magnitude of Aesthetic Effect	
	High	Low
High	High	Low
Medium	Moderate	Low
Low	Low	Low

7.2.6 Step 6 Assessment of Potential Cumulative Effects

For the purpose of this methodology, cumulative effects apply to public health and ecological effects, and have been interpreted to mean effects arising in combination with other effects, namely when several wastewater overflows in close proximity to each other are likely to occur at the same time and together generate a larger volume than a single overflow would.

In many cases the overall level of effects score will not change where the cumulative effect is generated by one high volume and several low volume overflows, because the individual assessment is already based on a high-volume overflow. However, there may be instances where several low volume discharges overflow together and would increase the total volume of wastewater in the receiving environment to the medium volume range. In such cases the medium volume effects score is assigned to determine the potential cumulative effects.

Worked example – Waiwhetū Stream:

For the Waiwhetū Stream receiving environment, cumulative effects are considered possible because:

There are a comparatively large number of overflow points that could potentially discharge (2 direct and 7 indirect overflows), although these are spatially separated.

All of the overflows except sites 8 and 11 occur at a 'Low' frequency, while overflow 8 occurs at a 'High' frequency and overflow 11 occurs at a 'Medium' frequency.

For spatial cumulative effects to arise, most of the discharges would need to occur at the same time, which is indeed likely. However, the available information is that total volume of wastewater discharges would remain in the 'Medium' volume range and cumulative effects would not be notably different from those assessed for site 8 alone. The outcome is that the cumulative effects assessment does not change the level of effects already determined from individual WNO's.

7.2.7 Step 7 Summary of Magnitude and Overall Level of Effects

The summary of the assessment of effects is provided in two ways, by receiving environment and by discharge point, as follows:

a. An effects score for the four key values and brief narrative at the end of each receiving environment assessment that focuses on the most significant effects, and

b. A table at the end of each wastewater catchment report listing overflow ID, the receiving environment, the volume and frequency range and the overall level of adverse effect assessed for public health, ecology, cultural values and aesthetic values.

Worked example – Waiwhetū Stream:

Summary table for the Waiwhetū Stream receiving environment (Table 7-12) and summary list of constructed overflow points based on the assessed level of adverse effect (Table 7-13).

Table 7-12: Summary of Potential Effects for Waiwhetū Stream

Value category	Potential magnitude of effect	Level of adverse effect
Public health	Low	Moderate/more than minor (3)
Aquatic ecology	Low	Moderate/more than minor (3)
Cultural	Moderate	High/significant (4)
Aesthetic	High	High/significant (4)

Table 7-13 identifies the overflows from COPs from across the Hutt Valley and Wainuiomata wastewater network that have been assessed as having moderate or high adverse effects. No overflows from COPs were assessed as having very high adverse effects. In the worked example, the overflows from COP ID 8 have been identified as a key driver of the adverse effects of wet weather overflows on the Waiwhetū Stream.

Table 7-13: Overflows from COPs Assessed as having a Moderate or High Adverse Effects

Overflow ID	Volume Range	Frequency Range	Facility Name	Receiving Environment	Level of Public Health Effect	Level of Ecological Effect	Level of Cultural Effect	Level of Aesthetic Effect	Combined Effects Score	Level of adverse effect
56	Medium	High	Main Road	Black Creek	5	3	4	4	16	High / significant
8	Low	High	Rossiter Ave	Waiwhetū Stream	3	3	4	4	14	
18	High	Medium	Barber Grove	Hutt River	5	3	3	3	14	
28	High	Medium	Silverstream S Tank	Hutt River	5	3	3	3	14	
64	High	Medium	Wainuiomata S Tank	Wainuiomata River	5	3	3	3	14	
68	Medium	Medium	Wainuiomata Landfill PS COP	Wainuiomata River	5	3	3	3	14	
40	Medium	Medium	Te Marua	Mangaroa River	4	3	3	3	13	Moderate / more than minor
58	Medium	Medium	23 Rowe Parade	Black Creek	4	2	3	3	12	
61	Medium	Medium	50 Fraser Street	Black Creek	3	2	3	3	11	
83	Low	Medium	21 Stanley St COP	Black Creek	3	2	3	3	11	

It's important to note that a high ranking in this table does not mean that the overflow will be one of the first ones to be resolved under this application. As set out in section 4 of Part 1 of this application, Wellington Water is proposing to apply a sub-catchment approach to reducing overflows.

7.3 CULTURAL VALUES ASSESSMENT

As set out above the cultural values that have contributed to the classification of receiving environments have been informed by the Cultural Impact Assessment (CIA) of the effects of the overflows on the Te Awa Kairangi / Hutt and the Wainuiomata Rivers and their tributaries prepared by Raukura Consultants. The CIA is a companion document to the application.

7.3.1 Key findings

The key finding of the CIA are as follows:

- Cultural Impacts of these applications or discharges are all influenced by Māori cultural values and in particular those held by Te Atiawa/Taranaki whānui and Ngāti Toa.
- Fresh water has always been culturally highly significant being seen as the source of life – waiora. The mauri of water sources such as Te Awa Kairangi / Hutt River and the Wainuiomata River was and is regarded although degraded can be improved through the exercise of kaitiakitanga. These applications or uses should be regarded in this light.
- It would be the position that every discharge of fully treated, partially treated or untreated wastewater to natural streams, rivers, lakes and wetlands goes against the cultural position for Māori.
- The discharges have varying cultural impacts depending on the size and frequency of the discharges, the cultural significance of the discharge site and the cultural significance of the receiving water.
- Overall, from the cultural and other perspectives the discharges to Black Stream through the Wainuiomata township are a priority for remedial works. Black Stream has poor water quality especially compared with the Wainuiomata River into which it flows. From the Taranaki Whānui perspective six discharge points: at Rowe Parade (58), Main Road (56), Heath Street (55), Hyde Street (57), Wellington Road ((59) and Fraser Street (61) all come into consideration for remedial work as a matter of priority.
- The discharge to the Te Awa Kairangi / Hutt River at the Silverstream Storage tank (64) is another priority for consideration and should probably have its own resource consent. The Silverstream discharge has the greatest possibility for cultural impacts, however this has the potential to be contained by further storage being added, and perhaps further work on inflow and infiltration in the upper catchment.
- The Barber Grove discharge has improved over time with inflow and infiltration improvements in the local catchments.
- The Black Stream discharge is a significant concern not just from the cultural perspective but also from the wider community perspective. This is likely to require considerable work on the infrastructure around Wainuiomata to improve this situation, along with improvements to inflow and infiltration.
- There appears to be little need for a mana whenua monitoring plan as a condition of these consents, however a more global approach should be developed for these rivers and streams to be culturally monitored.

7.3.2 Recommendations

The CIA sets out the following recommendations:

1. It is noted that the applications are being sought for 35 years and so envisage the longer term solution.

2. The Silverstream discharge has the greatest potential to adversely affect the water quality of Te Awa Kairangi / Hutt River not only for water users and resident fish populations but also the waters of Te Whanganui a Tara / Wellington Harbour. From the Māori perspective discharges at this point do not directly impact any cultural sites.
3. The current discharges are relatively infrequent and occur during rainfall events when there are high and turbid flows in the river. Discharges could be reduced more with additional storage.
4. The Barber Road discharge has a much lesser impact in that the discharge flows into the large flow of Te Awa Kairangi / Hutt River and has steadily decreased over time.
5. The Black Stream discharge should be fully investigated to work out options to improve it in the short -term and then look at better long-term solutions, including looking at improvement to inflow and infiltration in the catchment.

8.0 WIKAIRA CONSULTING REVIEW

Wikaira Consulting has been engaged by Wellington Water to facilitate engagement with Taranaki Whānui. As part of this process Wikaira Consulting reviewed drafts of the application documents (Part 1 and 2 Reports, CIA and proposed consent conditions).

Appendix 3 contains a copy of the Wikaira review which includes comments on how Wellington Water has responded to the review recommendations. The key changes to the application and in particular the proposed conditions as a result of the Wikaira review include:

1. Inclusion of the following additional WNO Objectives:
    a. A partnership with Mana Whenua for the oversight, planning and implementation of the resource consent for wet weather overflows.
    b. Priority to the reduction of wet weather overflows in catchments where the overflows are having an adverse effect on Mana Whenua sites of significance.
2. The inclusion of the following additional function for the Collaborative Committee
    a. Recommend to the consent holder the option to be investigated for its feasibility in achieving or contributing to achieving the Zero Overflow Aspirations.
3. Changes to the preparation of the Strategic Reduction Plan and subsequent updates to provide support for the consent holder from a Mātauranga Māori expert or other party agreed to by Taranaki Whānui in developing all components of the Plan.
4. Changes to the preparation of the Sub-catchment Reduction Plans to provide support for the consent holder from a Mātauranga Māori expert or other party agreed to by Taranaki Whānui in developing all components of the Plans.

9.0 STATUTORY ASSESSMENT

9.1 OVERVIEW OF CONSENTS SOUGHT

The following section identifies the various pNRP rules that apply to the WNOs, the WNOs that require consent, their activity classification, other relevant information and the overall activity classification of the application.

9.1.1 Rule Assessment

The tables below set out:

- The relevant rules that apply to the overflows and their associated receiving environments and an explanation on why they are relevant (Table 9-1).
- The pNRP Schedules that apply to the overflow receiving environments (Table 9-2)
- The activities (overflows) requiring consent, the relevant rule, the type of consents required and the relevant activity status (Table 9-3).

As can be seen from the tables the rule framework has a number of complexities and determining which rules apply to which WNOs and associated receiving environments is complicated.

Table 9-1: Relevant Rules

Rule[9]	Commentary
Rule R65: Wastewater discharges to coastal and fresh water – discretionary activity *The discharge of wastewater:* *(a) into coastal water, or* *(b) that is an existing wastewater discharge[10] into fresh water and meets the following conditions:* *(i) the volume of the discharge is reduced from that previously consented, and* *(ii) the loads of the contaminants monitored under the previous consent are reduced, or* *(c) that is an existing wastewater discharge into fresh water as a result of a heavy rainfall event overflow, and the application is accompanied by a management plan to demonstrate how the frequency and/or volume of the discharge will be progressively reduced,* *is a discretionary activity.*	Rule R65 applies to WNOs that discharge into coastal water and to existing WNOs that discharge into freshwater as a result of a heavy rainfall event (whether or not the discharge enters a site of significance) To meet the requirements of Rule R65 existing WNOs that discharge into freshwater as a result of a heavy rainfall event must be accompanied by a management plan to demonstrate how the frequency and/or volume of the discharge will be progressively reduced. Existing wastewater discharges are a defined term in the pNRP (see footnote below) Note this rule does not apply to WNOs that discharge to land that may enter freshwater or coastal water. Those discharges are either: • Discretionary activities under Rule R94 if the discharges do not enter a site of significance; or • Non-complying activities under Rule R93 if the discharges enter a site of significance
Rule R55: All other stormwater – discretionary activity	Rule R55 applies to WNOs that discharge to the stormwater network that subsequently discharge into

[9] http://pnrp.gw.govt.nz/assets/Uploads/Chapter-6.2-and-5.3-Discharges-to-land-and-water-Appeal-version-2022.pdf

[10] The pNRP defines "existing wastewater discharge" as:

Wastewater discharged into fresh or coastal water from a wastewater treatment plant or a wastewater network that is:

a) already authorised by an existing resource consent at the time of application for a new resource consent (the replacement resource consent application may seek a different quality, and/or quantity, and/or discharge location within the same or a downstream waterbody), and / or

b) *a heavy rainfall event overflows from a wastewater network that has occurred prior to 31 October 2020.*

Rule[9]	Commentary
The discharge of stormwater, including stormwater that may be contaminated by wastewater into water or onto or into land where it may enter water that is not permitted by Rules R48, R49 or R51, or controlled by Rule R52, or a restricted discretionary activity under Rules R50, R53, or R54 is a discretionary activity.	freshwater or coastal water or that subsequently discharge to land and may enter freshwater or coastal water. "Rule R53: Stormwater from a local authority or state highway network with a stormwater management strategy – restricted discretionary activity" does not apply because this application does not include a stormwater management strategy in accordance with Schedule N (stormwater strategy).
Rule R93: All other discharges to sites of significance – non-complying activity *The discharge of water or contaminants into water, or onto or into land where it may enter water:* *(a) in a site or habitat identified in Schedule A (outstanding water bodies), Schedule C (mana whenua), Schedule F1 (rivers/lakes), Schedule F3 (identified natural wetlands), Schedule F4 (coastal sites) or Schedule H1 (contact recreation), and* *(b) that is not a permitted, controlled, restricted discretionary, or discretionary activity under any rule in the Plan, or a non-complying activity under Rules R66, R74 or R88* *is a non-complying activity.*	Rule R93 applies to WNOs that discharge to land that may enter water in a site of significance. The sites of significance receiving environments relevant to this application are set out in Table 9-2 below. Under clause (b) of this rule, WNOs that discharge (directly) into freshwater or coastal water in a site of significance are exempt from this rule as these overflows are provided for as a discretionary activity under Rule R65 (as long as they are an 'existing wastewater discharge'). Unlike Rule R65, Rule R93 does not restrict WNOs to freshwater only to those that are existing WNOs that discharge into freshwater as a result of a heavy rainfall event.
Rule R94: All other discharges – discretionary activity *The discharge of water or contaminants into water, or onto or into land where it may enter water, that is not:* *(a) in a site or habitat identified in Schedule A (outstanding water bodies), Schedule C (mana whenua), Schedule F1 (rivers/lakes), Schedule F3 (identified natural wetlands), Schedule F4 (coastal sites) or Schedule H1 (contact recreation), and* *(b) a permitted, controlled, restricted discretionary, or non-complying activity under any other rule in the Plan, or a discretionary activity under Rules R55, R56, R58, R65, R83 or R90,* *is a discretionary activity.*	Rule R94 applies to WNOs that discharge to land that may enter freshwater or coastal water that is not a site of significance. These overflows are not provided for under Rule R65 which only applies to WNOs that are an existing wastewater discharge into (directly) freshwater or overflows (including new overflows) into coastal water. Unlike Rule R65, Rule R94 does not restrict WNOs to freshwater only to those that are existing WNOs that discharge into freshwater as a result of a heavy rainfall event. Accordingly, Rule R94 would cover any 'new' WNOs that are not to sites of significance (noting of course that such consent for such discharges are not sought as part of this application).

In terms of Rule R93: All other discharges to sites of significance, there are a number of receiving environments for the overflows where the pNRP sites of significance schedule apply. The following table provides a summary of the pNRP schedules that apply to the various discharge receiving environments.

Table 9-2: pNRP Schedules that Apply to the Overflow Receiving Environments

pNRP Schedule	Freshwater Receiving Environment	Coastal Water Receiving Environment
C: Sites with Significant Mana Whenua Values (Taranaki Whānui ki te Upoko o te Ika)	Waiwhetū Stream Te Awa Kairangi / Hutt River Wainuiomata River	Hutt Estuary Petone / East Harbour Beaches
F1a: Rivers and lakes with significant indigenous ecosystems	Korokoro Stream Te Awa Kairangi / Hutt River Wainuiomata River	Hutt Estuary
F1b: Known rivers and parts of the coastal marine area with inanga spawning habitat	Waiwhetū Stream Wainuiomata River	Hutt Estuary
F4: Sites with significant indigenous biodiversity values in the coastal marine area	Waiwhetū Stream	Hutt Estuary
H1: Significant contact recreation freshwater bodies	Te Awa Kairangi / Hutt River Wainuiomata River	

Table 9-3: Wet Weather Overflows Requiring Consent and their Classification

Activity	Relevant rule and activity classification and type
Existing wastewater discharges resulting from wet weather overflows from the wastewater network **into freshwater**.	Rule R65 Wastewater discharges to coastal and freshwater Discretionary activity - provided the application is accompanied by a management plan to demonstrate how the frequency and/or volume of the discharge will be progressively reduced. Discharge permit
Existing wastewater discharges resulting from wet weather overflows from the wastewater network **into coastal water.**	Rule R65 Wastewater discharges to coastal and freshwater Discretionary activity Coastal permit
Existing wastewater discharges resulting from wet weather overflows from the wastewater network **to the stormwater network and subsequently to freshwater or to land where the discharge may enter freshwater**.	Rule R55: All other stormwater – discretionary activity Discretionary activity Discharge permit
Existing wastewater discharges resulting from wet weather overflows from the wastewater network **to the stormwater network and subsequently to coastal water or to land where the discharge may enter coastal water**.	Rule R55: All other stormwater – discretionary activity Discretionary activity Coastal permit
Existing wastewater discharges resulting from wet weather overflows from the wastewater network **onto or into land where the discharge may enter water in a**	Rule R93: All other discharges to sites of significance Non-complying activity Discharge permit

Activity	Relevant rule and activity classification and type
site or habitat identified in Schedule C (mana whenua), Schedule F1 (rivers/lakes), Schedule F4 (coastal sites) or Schedule H1 (contact recreation).	Coastal permit
Existing wastewater discharges resulting from wet weather overflows from the wastewater network **into water in a site or habitat identified in Schedule C (mana whenua), Schedule F1 (rivers/lakes), Schedule F4 (coastal sites) or Schedule H1 (contact recreation).**	Rule R65 Wastewater discharges to coastal and freshwater Discretionary activity Discharge permit Coastal permit
Existing wastewater discharges resulting from wet weather overflows from the wastewater network **to land where the discharge may enter freshwater.**	Rule R94: All other discharges Discretionary activity Discharge permit
Existing wastewater discharges resulting from wet weather overflows from the wastewater network **to land where the discharge may enter coastal water.**	Rule R94: All other discharges Discretionary activity Coastal permit

9.1.2 Overall activity classification of the application

All the overflows are classified as discretionary activities except for those that discharge onto or into land where the discharge may enter water in a site of significance. These overflows are classified as non-complying activities. Applying the bundling principle means that the application for the wet weather overflows should overall be assessed as a non-complying activity.

The principle of bundling is generally that where there is an overlap between two consents so that consideration of one will affect the outcome of the other it will generally be appropriate to treat the application as one requiring an overall assessment on the basis of the most restrictive activity[11].

9.1.3 Existing wastewater discharges

Under Rule R61 WNOs that discharge into (directly) freshwater are restricted to those that are existing discharges i.e occurred prior to 31 October 2020 as a result of a heavy rainfall event. These discharges must be accompanied by a management plan to demonstrate how the frequency and/or volume of the discharge will be progressively reduced.

The following WNOs not restricted to the "existing wastewater discharge" requirements of Rule R61 are:

- WNOs that discharge into (directly) coastal water (Rule R61 clause (a))
- WNOs that discharge onto or into land where it may enter freshwater or coastal water (Rule 68)
- WNOs that discharge to the stormwater network (Rule 53)
- WNOs that discharge to land that may enter water in a site of significance (Rule 67).

It also follows that any 'new' WNOs (not being consented as part of this application) would be discretionary under Rule 61 if they discharge directly to coastal water, discretionary under R68 or non-complying under R67, depending on whether or not they were to sites of significance.

9.1.4 Wetland rules and regulations

In assessing the activity class of the discharges for which consent is being sought, consideration has been given to whether a resource consent is required under the wetland rules of the pNRP or the wetland

[11] *Tairua Marine Limited v Waikato Regional Council*, HC Auckland CIV-2005-485-1490, 29 June 2006, at [30].

regulations of the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (the NES-F).

Within the pNRP, section 5.4 includes rules that apply to activities, including discharges, in natural wetlands and in outstanding natural wetlands. Rule R117 makes the discharge of water or contaminants in a natural wetland, and not permitted by Rule R91, a discretionary activity. Rule R120 makes discharges of water or contaminants in an outstanding natural wetland a non-complying activity.

The NES-F regulation 46 provides for discharges of water as part of the operation of specified infrastructure (the definition of which includes the wastewater network) within, or within a 100 m setback from, a natural inland wetland as a permitted activity subject to meeting specified conditions. If these conditions cannot be met, then the discharge would become a restricted discretionary activity under regulation 47.

To determine whether resource consent is required under these provisions, a GIS based assessment was undertaken to compare the discharge location of known wastewater overflows with the location of known natural wetlands and outstanding natural wetlands. The wetland data sources used for this exercise were:

- The Outstanding Natural Wetlands listed in Schedule A3 of the pNRP
- The Natural Wetlands listed in Schedule F3 of the pNRP
- The 'Current wetland extent 2013' GIS layer - https://data.mfe.govt.nz/layer/52676-current-wetland-extent-2013/.

This exercise identified that:

- The WNOs covered by this application do not discharge into any Outstanding Natural Wetlands
- Only one natural wetland listed in Schedule F3 of the pNRP is in proximity to and is hydraulically connected to the discharge location for one known WNO. This natural wetland is located at Te Awa Kairangi / Hutt River mouth (see Figure 9-1). However, this wetland is not a 'natural inland wetland' as it is located within the CMA and the WNO discharge location is neither within the natural wetland, nor within a 100 m setback of the natural wetland. The discharge location is approximately 170 metres from the boundary of the natural wetland. Therefore, resource consent is not triggered under either the pNRP wetland provisions or the NES-F.
- A second WNO is located in proximity to the Te Awa Kairangi / Hutt River mouth natural wetland as shown in Figure 9-1. However, this overflow occurs into a section of the stormwater network that discharges to Petone beach, i.e. the discharge is not in, or within a 100m setback of, the natural wetland
- The wetlands identified in the MfE database are all in the upper reaches of catchments, well upstream / up-gradient of the WNO discharge locations.

Based on this assessment exercise, resource consent has not been sought under the wetland provisions of either document. However, it is recognised that new information will be gathered on both the location WNOs and natural wetlands in the future. If this information identifies that resource consent is required for any WNOs under the wetland provisions, then Wellington Water proposes to apply for resource consent at that time.

Despite a specific resource consent not being required in relation to the WNO that is connected to the Te Awa Kairangi / Hutt River mouth wetland, it is still relevant to assess the potential effects of this WNO on the wetland. An assessment of the potential adverse effects is provided in section 3.7 of the Part 2 AEE.

Figure 9-1: WNO discharge locations in proximity to the Te Awa Kairangi / Hutt River mouth natural wetland
(Note: The natural wetland is shown by the green polygon. The connected WNO discharge location is shown by the blue dot surrounded by the red circle. The unconnected WNO is shown by the blue dot. The stormwater network is shown be the green lines.)

9.2 RMA REQUIREMENTS

9.2.1 Section 104 Consideration of applications

Section 104 of the RMA sets out the matters that GWRC must have regard to when considering the catchment wide resource consent application. These matters provide the framework for this statutory assessment and are reproduced below.

> *When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2 have regard to–*
>
> *any actual and potential effects on the environment of allowing the activity; and any relevant provisions of—*
>
> *(i) a national environmental standard:*
>
> *(ii) other regulations:*
>
> *(iii) a national policy statement:*

(iv) a New Zealand coastal policy statement:

(v) a regional policy statement or proposed regional policy statement:

(vi) a plan or proposed plan; and

(vii) any other matter the consent authority considers relevant and reasonably necessary to determine the application.

The matters in s104 that are considered relevant to the consent application are identified and summarised in the following sections. A full assessment of the application in relation to the relevant planning instruments is contained in Appendix 1.

It is noted that the assessment in the following sections and in Appendix 1 with respect to the provisions addressing mana whenua values is preliminary and is subject to further input from mana whenua.

9.2.2 Section 104D Particular restrictions for non-complying activities

As set out above applying the bundling principle means that the application for the wet weather overflows should overall be assessed as a non-complying activity. RMA s104D applies when considering applications for activities classified as non-complying.

When assessing non-complying activities, a consent authority must be satisfied that either the adverse effects of the activity on the environment will be minor (s104D(1)(a)), or the proposed activity will not be contrary to the objectives and policies of a proposed plan and/or plan (s104D(1)(b)).

As set out in section 7 above and in the Assessment of Environmental Effects Part 2 Report in some sub-catchments the WNOs are assessed as having a more than minor adverse effect in the receiving environment. Consequently s104(1)(a) cannot be met and therefore it is necessary to demonstrate that the proposal is not contrary to the objectives and policies of the pNRP.

The 'not contrary to' test has a relatively high bar. The term 'contrary' in this context has been interpreted to mean something more than just non-complying. It is widely accepted that 'contrary' should not be restrictively defined, and contemplates being opposed to in nature, different to, opposite, and also repugnant and antagonistic. A proposal with non-complying activity status cannot, for that reason alone, be said to be contrary to the objectives and policies.

The Courts have held that in considering whether a non-complying activity is contrary to the objectives and policies of the plan, the council should consider the overall purpose and the scheme of the plan, rather than a checking of whether the non-complying activity fits exactly within the detailed provisions of the plan. In most cases a finding that a proposal is inconsistent with a particular provision will not mean it is contrary to the objectives and policies of the plan as a whole. The assessment of the relevant objectives and policies of the pNRP that are relevant to this application are set out in detail in Appendix 1: Table 5 and are summarised in section 9.4.3 below. The assessments have concluded that overall, the proposal is not contrary to the pNRP objectives and policies.

9.2.3 Section 105 Matters relevant to certain applications

As the application is for discharge and coastal permits s105 of the RMA applies. It requires that:

(1) If an application is for a discharge permit or coastal permit to do something that would contravene section 15 or section 15B, the consent authority must, in addition to the matters in section 104(1), have regard to—

(a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and

(b) the applicant's reasons for the proposed choice; and

(c) any possible alternative methods of discharge, including discharge into any other receiving environment.

In terms of s105(1)(a) it is noted that the methodology developed for undertaking the effects assessment of the wet weather overflows specifically allows for the comparative assessment of public health, ecological, cultural and aesthetic effects on aquatic receiving environments that may occur following a wet weather wastewater overflow.

The classification of receiving environment values has been informed primarily by the pNRP Schedules that identify sites with significant cultural, recreational, heritage and biodiversity values that require particular recognition or protection.

In terms of s105(1)(b), it is noted that overflows are existing discharges, and the nature of the wastewater network means that choices to avoid overflows or change receiving environments are very limited.

In addition, it is also noted that Wellington Water is choosing to seek consents for all wet weather overflows from the Hutt Valley and Wainuiomata wastewater networks to ensure that all existing overflows are consented and are subject to a management regime designed to progressively reduce the frequency of the overflows and to work towards achieving the outcomes sought by Mana Whenua in Te Mahere Wai.

This approach is preferred to operating the network under a number of different overflow consents with different and at times inconsistent conditions and with a number of overflows that are unconsented. Incorporating wastewater overflows that discharge into the stormwater network will ensure that all wastewater overflows can be consistently managed and are subject to the same conditions. It will also allow for systemic change to our approaches to managing overflows so that we can progressively reduce them and implement Te Mana o te Wai.

A more detailed explanation of the benefits of the proposed consenting approach is set out in section 1.2 of this report.

In considering any possible alternative methods of discharge (s105(1)(c)), including discharges into any other receiving environments, it should be noted that the overflows are existing discharges, and the nature of the wastewater network means that a fundamental redesign of the network to avoid overflows or change receiving environments is not currently realistic. The changes that can be made to the network relate to improvements to the network to reduce the frequency of the overflows and this is the focus of the proposal rather than considering other receiving environments for the discharge of the WNOs.

In determining the works required to improve the network's performance in relation to overflows, an assessment of any possible alternative methods of discharge will form part of the work programme of the collaborative committee. This process will involve identifying available options for network improvement works and comparing each option in terms of the extent to which the option will achieve the network performance objectives and the containment standard and address effects in priority receiving environments. The types of options are set out in the table below.

Consideration was given to converting any uncontrolled overflow points to COPs as an interim step before a sub-catchment is upgraded to meet the containment standard. This option was not pursued because of the resources that would be required, which would detract from the resources available for meeting the containment standard.

Table 9-4: Options for Reducing or Removing Wastewater Network Overflows

Option	Description
System Optimisation	Controlling the network to maximise use of available capacity prior to wet weather overflows by adjusting Real Time Controls or raising weirs etc.
Conveyance	Conveyance through online upsizing, diversion of flows or wet weather bifurcations.
Storage	Storage associated with pump stations and at other COPs.
Treatment and Discharge	Local / neighbourhood / suburb WWTPs and disposal receiving environments.
Inflow and Infiltration	Reduction of rainfall derived I&I through network rehabilitation or replacement.
Aspirational Initiatives	Includes more aspirational standards being set beyond the term of the wastewater network consent, to provide for continuous improvement in the long term with the goal of ultimately eliminating wastewater overflows. There will be an ongoing work programme during the timeframe of this consent to consider aspirational alternatives. Refer to section 4.10.1.

9.2.4 Section 107 Restriction on grant of certain discharge permits

Section 107 specifically applies to any discharge of contaminants into water and s107(1) states that a resource consent will not be granted if:

> *after reasonable mixing, the contaminant or water discharged (either by itself or in combination with the same, similar, or other contaminants or water), is likely to give rise to all or any of the following effects in the receiving waters:*
>
> *(c) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials:*
>
> *(d) any conspicuous change in the colour or visual clarity:*
>
> *(e) any emission of objectionable odour:*
>
> *(f) the rendering of fresh water unsuitable for consumption by farm animals:*
>
> *(g) any significant adverse effects on aquatic life.*

However, s107(2) states that consent may be granted if any of the effects identified above occur if the consent authority is satisfied:

> *(a) that exceptional circumstances justify the granting of the permit; or*
>
> *(b) that the discharge is of a temporary nature; or*
>
> *(c) that the discharge is associated with necessary maintenance work—*
>
> *and that it is consistent with the purpose of this Act to do so.*

Given the known characteristics of untreated wastewater (as described in the Part 2 Report), it is possible that after reasonable mixing, there is potential that some overflows may cause:

- Production of conspicuous scums or foams, or floatable or suspended materials
- A conspicuous change in the colour or visual clarity, and /or

- Emission of objectionable odour.

However, the exceptions provided for in sub clauses (a) and (b) of s107(2) could be applied to the catchment wide consents for the following reasons:

- In terms of wet weather overflows, they occur in high rainfall conditions and discharge into flooded waterbodies which may already be carrying a high contaminant load. The water bodies could well have changed colour, lost clarity and include conspicuous scums or foams, or floatable or suspended materials
- The wastewater network is designed to overflow in heavy rainfall events. These overflows take the pressure off other components of the network including those parts of the network on private property
- The discharges are temporary, intermittent, of a short duration and are diluted due to stormwater entering the network or because they are discharging to the stormwater network.

In addition, s107(3) provides for the inclusion of conditions that require the consent holder to undertake works in stages throughout the term of the consent that will ensure that upon the expiry of the consent the requirements of s107(1) and of any relevant regional rules can be met. The approach proposed by Wellington Water in managing the WNOs to progressively reduce their frequency throughout the term of the consent and ensuring the containment standard and the WNO objectives are met is consistent with clause (3) of s107. As set out in section 4 above, the Collaborative Committee oversees a wastewater network overflow reduction programme and will review priorities over the term of the consent. It is anticipated with the delivery of the work programme, by the time the consent expires in 35 years the requirements of s107(1) will be achieved.

9.3 RELEVANT NATIONAL PLANNING INSTRUMENTS

The following provides a summary of the key provisions of the national planning instruments that, under s104 of the RMA, the consent authority must have regard to when considering the application.

9.3.1 National Policy Statement for Freshwater Management 2020

The National Policy Statement for Freshwater Management 2020 (NPS-FM) applies to the overflows that discharge to freshwater either directly or indirectly i.e. discharge to land that may enter freshwater. A full assessment of the application in relation to the relevant objectives and policies of the NPS-FM is contained in Table 2 of Appendix 1.

The fundamental concept of Te Mana o te Wai introduced by the NPS-FM establishes the overarching framework for the consideration of the effects of the wastewater overflows on freshwater receiving environments. This application places Te Mana o te Wai at the centre of its strategic management plan.

There is a hierarchy of obligations in Te Mana o te Wai that prioritises:

a) first, the health and well-being of water bodies and freshwater ecosystems

b) second, the health needs of people (such as drinking water)

c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

This hierarchy is reflected in the only objective of the NPS-FM.

Te Mana o te Wai encompasses six principles relating to the roles of tangata whenua and other New Zealanders in the management of freshwater, and these principles inform the NPS-FM and its implementation. The six principles are:

1. *Mana whakahaere: the power, authority, and obligations of tangata whenua to make decisions that maintain, protect, and sustain the health and well-being of, and their relationship with, freshwater.*
2. *Kaitiakitanga: the obligation of tangata whenua to preserve, restore, enhance, and sustainably use freshwater for the benefit of present and future generations.*
3. *Manaakitanga: the process by which tangata whenua show respect, generosity, and care for freshwater and for others.*
4. *Governance: the responsibility of those with authority for making decisions about freshwater to do so in a way that prioritises the health and well-being of freshwater now and into the future.*
5. *Stewardship: the obligation of all New Zealanders to manage freshwater in a way that ensures it sustains present and future generations.*
6. *Care and respect: the responsibility of all New Zealanders to care for freshwater in providing for the health of the nation.*

Other key relevant provisions of the NPS-FM seek that:

- Freshwater is managed in accordance with Te Mana o te Wai
- The health and wellbeing of freshwater is maintained or, where degraded, improved, the loss of river values is avoided to the extent practicable and loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted
- Freshwater is managed in an integrated way on a whole-of-catchment basis
- Tangata whenua are actively involved in freshwater management.

It is considered that the proposal is generally consistent with the directions set by the provisions given that:

- The Collaborative Committee is intended to facilitate a partnership with Mana Whenua in the management of wastewater network discharges and will facilitate consideration of principles relating to mana whakahaere, kaitiakitanga and manaakitanga in the management of WNOs. The WNO Objectives include the objective requiring a partnership with Mana Whenua for the oversight, planning and implementation of the resource consents for wastewater overflows.
- The Collaborative Committee's role in prioritising sub-catchments for improvement through the Strategic Reduction Plan should facilitate prioritising the health and well-being of water bodies and freshwater ecosystems.
- The Collaborative Committee has been designed to enable the Te Mana o te Wai principles to inform the development of the Strategic and Sub-catchment Reduction Plans which include the prioritisation of sub-catchments and improvement works.
- The Strategic and Sub-catchment Reduction Plans are designed to progressively reduce wastewater network overflows and in doing so, assist to enhance water quality. The WNO Objectives include the objective to progressively reduce the frequency of wet weather overflow events. This objective is to be achieved by the consent holder over the term of the consent.
- The Strategic and Sub-catchment Reduction Plans will establish an integrated catchment based approach to the management of WNO discharges for the Hutt Valley and Wainuiomata catchments. The approach will enable the consent holder to prioritise sub-catchments to deliver the best environmental outcomes while efficiently and effectively managing the wastewater network rather than on a discharge-by-discharge basis as consents expire.
- In addition to the Collaborative Committee, Mana Whenua will have a key role in planning and implementing the WNO consents. This includes Mātauranga Māori expert or other party agreed to

by Taranaki Whānui support for the consent holder in developing the Strategic and Sub-catchment Reduction Plans, cultural value assessments, and Mātauranga Māori monitoring.

9.3.2 New Zealand Coastal Policy Statement 2010

The coastal environment is the direct receiving environment for some of the network overflows and is an indirect receiving environment for other overflows. The New Zealand Coastal Policy Statement (NZCPS) is therefore a key document to consider in relation to the application. A full assessment of the application in relation to the relevant objectives and policies of the NZCPs is contained in Table 1 of Appendix 1. Relevant key provisions in the NZCPS seek to:

- Safeguard the coastal environment and sustain its ecosystems.
- Protect and / or preserve significant natural ecosystems, habitats and species, indigenous biodiversity and natural character.
- Enhance water quality and manage discharges of human wastewater.
- Provide for tangata whenua involvement in the management of the coastal environment.
- Maintain and enhance recreation opportunities.
- Enable people and communities to provide for their social, economic, and cultural wellbeing, and health and safety.
- Recognise that the provision of infrastructure in the coastal environment is important for the well-being of people and communities.

It is considered that the proposal is consistent with most of these directions given that:

- The proposed Strategic and Sub-catchment Reduction Plans will seek to progressively reduce wastewater network overflows and in doing so assist to enhance water quality, and consequently recreation opportunities, in the coastal environment.
- The application recognises the importance of protecting indigenous biological diversity and natural features and natural landscapes. In prioritising sub-catchments and improvement works key considerations for the Collaborative Committee will be the sensitivities of the coastal receiving environments, public health needs and social/economic/cultural well-being.
- The Collaborative Committee is intended to facilitate a partnership with iwi in the management of wastewater network overflow discharges and will enable values of significance to iwi to be reflected in the prioritisation of and programme for network improvements. The WNO Objectives include the objective requiring a partnership with Mana Whenua for the oversight, planning and implementation of the resource consents for wastewater overflows.
- In addition to the Collaborative Committee, Mana Whenua will have a key role in planning and implementing the WNO consents. This includes Mātauranga Māori expert or other party agreed to by Taranaki Whānui support for the consent holder in developing the Strategic and Sub-catchment Reduction Plans, cultural value assessments, and Mātauranga Māori monitoring.
- A key purpose of the wastewater network is to protect public health by conveying untreated wastewater away from people's homes. Wastewater overflows serve an important function within the network by taking pressure off other parts of the network during periods of rainfall or blockage and thereby reducing the risk of discharges from these other locations, including those on private property, which would present more significant public health risks.
- The NZCPS recognises that activities including infrastructure needs to be provided for in the coastal environment.

- Implementation of the consent in accordance with the proposed consent conditions will over the term of the consent assist in safeguarding the integrity, form, functioning and resilience of the coastal environment, sustaining its ecosystems and preserving natural character.

9.3.3 National Policy Statement on Urban Development 2020

The National Policy Statement on Urban Development 2020 (NPS-UD) recognises the national significance of providing sufficient development capacity to meet the different needs of people and communities.

Under the NPSUD, Wellington is a Tier 1 urban environment and HCC and UHCC are Tier 1 local authorities.

The NPSUD requires HCC and UHCC to:

- Provide at least sufficient development capacity for housing and business land, to ensure there is sufficient developable land to meet demand, plus a competitiveness margin.
- Prepare housing and business development capacity assessments every three years, to ensure their planning decisions are well-informed by the demand and supply of housing and business land.
- Ensure the District Plan provides sufficient development capacity to meet expected demand for housing (categorised by type and location) in the short, medium, and long term.
- Ensure the District Plan provides sufficient development capacity to meet expected demand for business (categorised by business sector) in the short, medium, and long term.

In terms of the last two bullets, it is important to note these requirements are not a target, but a minimum that local authorities must provide.

The relevance of the NPS-UD to the wastewater network overflow consents is in the context of growth and the partner council responsibilities to meet the requirements of the NPS-UD in terms of future greenfield and brownfield (intensification) growth. These growth requirements have the potential to impact on wastewater network capacity and the future management of the networks.

9.3.4 National environmental standards and other regulations

9.3.4.1 National Environmental Standards for Sources of Human Drinking Water 2007

The purpose of the National Environmental Standards for Sources of Human Drinking Water (NES-DW) is to improve drinking water management by ensuring that catchments are included in the management of drinking water. Disease-causing micro-organisms are present in many water sources. These enter water from a range of sources, including animal and human waste and can place drinking water supplies at risk.

Regulation 7 of the NES-DW states that:

> *A regional council must not grant a water permit or discharge permit for an activity that will occur upstream of an abstraction point where the drinking water concerned meets the health quality criteria if the activity is likely to—*
>
> *a) introduce or increase the concentration of any determinands in the drinking water, so that, after existing treatment, it no longer meets the health quality criteria; or*
>
> *b) introduce or increase the concentration of any aesthetic determinands in the drinking water so that, after existing treatment, it contains aesthetic determinands at values exceeding the guideline values.*

The NES uses the term “determinand” instead of “contaminant”. Determinands are substances that can adversely affect human health or the aesthetic properties of drinking water and include substances that are present in wastewater.

The pNRP includes schedules and maps that identify surface and groundwater community drinking water supply protection areas. There are no surface water protection areas downstream of any overflow discharge points. However, there are a number of overflow discharge points located within the Hutt community drinking water supply catchment area and groundwater supply protection area.

The Part 2 Report for the Hutt Valley and Wainuiomata includes an assessment of potential effects on the Hutt drinking water supplies and has concluded that the intermittent occurrence of WNOs to the Hutt River has negligible effect on the quality of groundwater within the Waiwhetū Aquifer and does not compromise the ability of Wellington Water to provide safe drinking water to its customers. It is also noted that since 2017 there has been an increase in the level of treatment at the Waterloo Water Treatment Plant which includes UV treatment and chlorination. This ensures that safe drinking water continues to be provided to Lower Hutt customers and ensures compliance with the Drinking Water Standards NZ.

9.3.4.2 National Environmental Standard for Freshwater 2020

Part 2 of the NES for Freshwater covering 'Standards for farming activities' does not apply to this application as this is not a farming activity.

Part 3, subparts 2 and 3 of the NES do not apply to this application as it does not involve the reclamation of the bed of the river or the construction of structures.

Part 3, subpart 1 of the NES applies to activities within, or within setbacks of, natural inland wetlands. As set out in section 9.1.4, the WNOs covered by this application do not discharge into, or within the 100m setback of any Natural Inland Wetlands. Consequently, resource consent has not been sought under the wetland provisions of the NES for Freshwater.

9.4 RELEVANT REGIONAL PLANNING INSTRUMENTS

The following provides a summary the key provisions of the regional planning instruments that under s104 of the RMA the consent authority must have regard to when considering the application. Given that the pNRP is in effect operative, the Regional Freshwater Plan and the Coastal Plan have not been considered in this assessment.

This section also provides a summary and assessment of the key provisions of Te Mahere Wai and Te Whaitua te Whanganui-a-Tara Implementation Programme. These documents provide recommendations to GWRC and at this stage it is not clear how many of those recommendations will be implemented.

9.4.1 Regional Policy Statement for the Wellington Region 2013

The Regional Policy Statement (RPS) became operative in 2013. A full assessment of the application in relation to the relevant objectives and policies of the RPS is contained in Table 3 of Appendix 1. The key provisions in the RPS relevant to this application seek that:

- The social, economic, cultural, and environmental, benefits of regionally significant infrastructure are recognised and protected.
- A whole-of-catchment approach is taken.
- Within the coastal environment, habitats and features with significant values and natural character are protected, and the quality of coastal waters is maintained and enhanced.
- The quality of freshwater and aquatic ecosystems are maintained or enhanced.
- Matters of significance for tangata whenua are recognised and provided for and mauri of water is sustained.

It is considered that the proposal is generally consistent with most of these directions given that:

- Provision for wastewater network overflows enables the efficient operation of the wastewater network and thereby recognises the benefits it provides to public health
- The proposed Strategic and Reduction Plan take a whole-of-catchment approach to the management of wastewater overflows. It is anticipated that the Collaborative Committee through the Strategic Reduction Plan will prioritise sub-catchments for the development and implementation of Sub-catchment Reduction Plans where effects from the overflows are the greatest
- The proposed Strategic and Sub-catchment Reduction Plans will seek to progressively reduce wastewater network overflows and in doing so assist to enhance water quality
- The Collaborative Committee is intended to facilitate a partnership with Mana Whenua in the management of wastewater network discharges and will enable values of significance to Mana Whenua to be reflected in the prioritisation of sub-catchments and in the Sub-catchment Reduction Plans.
- In addition, the WNO Objectives include giving priority to the reduction of wet weather overflows in sub-catchments where the overflows are having an adverse effect on Mana Whenua sites of significance. The consent conditions require the consent holder to report regularly regarding the ongoing progress in achieving the containment standard and overflow objectives over the term of the consent.
- In addition to the Collaborative Committee, Mana Whenua will have a key role in planning and implementing the WNO consents. This includes Mātauranga Māori expert or other party agreed to by Taranaki Whānui support for the consent holder in developing the Strategic and Sub-catchment Reduction Plans, cultural value assessments, and Mātauranga Māori monitoring.
- Implementation of the consent in accordance with the proposed resource consent conditions will over the term of the consent assist in protecting the quality of freshwater and coastal waters, significant indigenous ecosystems and habitats, and maintaining or enhancing the functioning of ecosystems and amenity and recreational values.

9.4.2 Proposed Change 1 to the Regional Policy Statement

Proposed Change 1 to the RPS was publicly notified on 19 August 2022. Submissions closed on 14 October 2022.

The focus of the RPS proposed Change 1 (Change 1) is to implement and support the NPS-UD and to start the implementation of the NPS-FM. Change 1 also addresses issues relating to climate change, indigenous biodiversity and high natural character. A full assessment of the application in relation to the relevant objectives and policies of the Change 1 is contained in Table 4 of Appendix 1.

As Change 1 is in the early stages of the statutory process only limited weight can be placed on the proposed provisions. The relevant key provisions in Change 1 seek:

- That the integrated management of the region's natural and built environments is guided by Te Ao Māori.
- Partnership with mana whenua / tangata whenua to provide for mana whenua / tangata whenua involvement in resource management and decision making.
- Recognition of the interrelationship between natural resources and the built environments and that the impacts of activities may extend beyond immediate and directly adjacent areas.
- That by 2050, the Wellington Region is a low-emission and climate-resilient region, where climate change mitigation and adaptation are an integral part of well-functioning urban environments and well-planned infrastructure.

- That natural and physical resources of the region are managed in a way that prioritises first, the health and well-being of water bodies and freshwater ecosystems, second, the health needs of people, third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.
- That the region's indigenous ecosystems are maintained, enhanced, and restored to a healthy functioning state, improving their resilience to increasing environmental pressures, particularly climate change, and giving effect to Te Rito o te Harakeke.
- Enablement of mana whenua / tangata whenua to exercise their role as kaitiaki.

While only limited weight can be given to the RPS changes given that they are at an early stage of the planning process, it is considered that the proposal is generally consistent with the proposed changes to the RPS because:

- The proposed Collaborative Committee is intended to be a partnership between the consent holder and mana whenua and will be a decision-making body responsible for ensuring the Wastewater Network Objectives and containment standard are met.
- The Collaborative Committee has been designed to enable the Te Mana o te Wai principles relating to mana whakahaere, kaitiakitanga and manaakitanga to inform the development of the network containment standard and the prioritisation of sub-catchments and improvement works.
- The Collaborative Committee will determine the containment standard and the final form of the Strategic and Sub-catchment Reduction Plans. This is intended to ensure that the effects of wet weather overflows are managed in a way that gives greater priority to the health and well-being of water bodies.
- Modelling of wastewater flows is key in the development of the containment standard, the Strategic and Sub-catchment Reduction Plans and to determining compliance under this consent. The model assumptions take into account the predicted impact of climate change on rainfall and flow within the wastewater network.
- Implementation of the consent in accordance with the proposed consent conditions will over the term of the consent assist in protecting the quality of freshwater and significant indigenous ecosystems and habitats and maintaining or enhancing the functioning of ecosystems and amenity and recreational values.

9.4.3 Proposed Natural Resources Plan (Appeals version) 2022

The pNRP Appeals version incorporates the Consent Orders that relate to various appeals against the pNRP. A full assessment of the application in relation to the relevant objectives and policies of the pNRP is contained in Table 4 of Appendix 1. The relevant key provisions in the pNRP seek that:

- The relationship of tangata whenua with fresh water is recognised and provided for, kaitiakitanga is recognised and mauri is protected.
- The life-supporting capacity of water and aquatic ecosystems is safeguarded, and significant indigenous aquatic vegetation and significant habitats of freshwater fauna are protected.
- The quality of water, biodiversity, aquatic ecosystem health and mahinga kai are maintained or improved.
- Adverse effects on biodiversity, aquatic ecosystem health and mahinga kai, sites of significance to mana whenua and sites with significant indigenous biodiversity values are managed in accordance with an effects management hierarchy.
- Improving water quality for contact recreation and Māori customary use.

The pNRP includes specific provisions that relate to the management of wastewater networks. The policies are directive and focus on:

- Progressively reducing the frequency and / or volume of existing discharges to freshwater and coastal water from wastewater network overflows during or following rainfall events.
- Avoiding new discharges to freshwater.
- Reflecting mana whenua values and interests in the management of wastewater discharges.
- Avoiding discharges to freshwater and coastal of untreated wastewater except as the result of heavy rainfall events.

It is considered that the proposal is consistent with most of these objective and policy directions given that:

- The Collaborative Committee is intended to facilitate a partnership with Mana Whenua in the management of WNO discharges and will enable values of significance to Mana Whenua to be reflected in the prioritisation of sub-catchments and programme for network improvements. The functions of the Collaborative Committee include:
    - overseeing the development of the Strategic Reduction Plan which include setting the containment standard and subsequent six yearly reviews.
    - overseeing the Mātauranga Māori monitoring plan.
    - recommending for investigation the option for achieving or contributing to achieving the Zero Overflow Aspirations.
- In addition to the Collaborative Committee, Mana Whenua will have a key role in planning and implementing the WNO consents. This includes Mātauranga Māori expert or other party agreed to by Taranaki Whānui support for the consent holder in developing the Strategic and Sub-catchment Reduction Plans, cultural value assessments, and Mātauranga Māori monitoring.
- The Strategic and Sub-catchment Reduction Plans are designed to progressively reduce wastewater network overflows and in doing so assist to improve biodiversity, aquatic ecosystem health and mahinga kai.
- The WNO Objectives include the objective to progressively reduce the frequency of wet weather overflow events. This objective is to be achieved by the consent holder over the term of the consent.
- It is not practicable to avoid adverse effects on sites of significance, however the Sub-catchment Reduction Plans will seek to minimise adverse effects on such sites and on biodiversity, aquatic ecosystem health and mahinga kai. In addition, the WNO Objectives include giving priority to the reduction of wet weather overflows in catchments where the overflows are having an adverse effect on Mana Whenua sites of significance. The consent conditions require the consent holder to report annually on progress in the implementation of the consent.
- The implementation of the consent in accordance with proposed resource consent conditions will, over the term of the consent, assist in progressing the protection of ecosystems and habitats with significant indigenous biodiversity values.

9.4.4 Te Mahere Wai

Te Mahere Wai is a companion document to the Te Whaitua te Whanganui-a-Tara Implementation Programme that describes Mana Whenua values and establishes a Mana Whenua assessment framework, called Te Oranga Wai, for the measurement and management of freshwater, receiving coastal waters and mahinga kai in the whaitua. It represents a Te Tiriti o Waitangi partnership response.

The key outcomes sought in Te Mahere Wai of relevance to this project are:

- Mana Whenua are able to exercise kaitiakitanga and lead freshwater and coastal management decision-making.
- The wellbeing and life of the wai (water) is primary.
- Key areas like te mātāpuna, estuaries and repo are prioritised for protection and restoration so that they are once again supporting healthy functioning ecosystems.
- Activities affecting water quality will ensure that the water quality standards set in the PNRP, or the A band attribute state in the NPSFM 2020, whatever is more stringent, are achieved.
- Prioritise removing the discharge of human effluent and waste to freshwater and coastal waterbodies.
- There are no discharges (point source or non-point source) that impact on water quality standards that are set.
- Develop a plan to remove all direct wastewater discharges to freshwater within a generation (20 years).
- Works to remove all untreated wastewater discharges to takutai moana (the sea) within a generation (20 years).
- Identify the impacts of wastewater discharges on public health, mahinga kai, customary use and Mana Whenua sites of significance through viral and faecal coliforms flesh testing of taonga species.
- Share decision-making with Mana Whenua.

It is considered that the proposal will go some of the way to achieving the outcomes sought by Te Mahere Wai given that:

- The Collaborative Committee is intended to facilitate a partnership with iwi in the management of wastewater network discharges and will enable values of significance to Mana Whenua to be reflected in the prioritisation of and programme for network improvements. The functions of the Collaborative Committee include:
    - overseeing the development of the Strategic Reduction Plan which include setting the containment standard and subsequent six yearly reviews.
    - overseeing the Mātauranga Māori monitoring plan.
    - recommending for investigation the option for achieving or contributing to achieving the Zero Overflow Aspirations.
- In addition to the Wastewater Network Collaborative Committee, Mana Whenua will have a key role in planning and implementing the WNO consents. This includes Mātauranga Māori expert or other party agreed to by Taranaki Whānui support for the consent holder in developing the Strategic Reduction Plan and its it six yearly reviews, cultural value assessments and Mātauranga Māori monitoring.
- The Strategic and Sub-catchment Reduction Plans are designed to progressively reduce the wastewater overflows and thereby minimise their adverse effects including effects on mahinga kai, customary use, and Mana Whenua sites of significance.
- It is not practicable to avoid adverse effects on sites of significance, however the Sub-catchment Reduction Plans will seek to minimise adverse effects on such sites and on biodiversity, aquatic ecosystem health and mahinga kai. In addition, the WNO Objectives include giving priority to the reduction of wet weather overflows in catchments where the overflows are having an adverse effect on Mana Whenua sites of significance. The consent conditions require the consent holder to report annually on progress in the implementation of the consent.

- The Mātauranga Māori monitoring can be designed to include flesh testing of taonga species to identify the presence of any viral and faecal coliforms.
- Timeframes of 20 years for the removal of all untreated wastewater discharges to takutai moana and the removal of all direct wastewater discharges to freshwater cannot currently be achieved for the overflows from the wastewater network and the cost to achieve this using current technology. However, it is noted that the Collaborative Committee has a key role in recommending the option to be investigated by the consent holder for achieving or contributing to achieving the Zero Overflow Aspirations.
- It is also noted that the Strategic Management Plan for the future management of the WNOs along with the Strategic and Sub-catchment Reduction Plans seek to progressively reduce the overflows and to do so in manner that recognises Mana Whenua values for fresh and coastal water and provide the opportunity for partnership and Mana Whenua to exercise kaitiakitanga.

9.4.5 Te Whaitua te Whanganui-a-Tara Implementation Programme

Whaitua Te Whanganui-a-Tara Implementation Programme (WIP) sets out the programme to restore and improve water quality and ecosystem health in Whaitua Te Whanganui-a-Tara.

The WIP and Te Mahere Wai should be considered and actioned together because they share an inter-dependency of knowledge, information, and priorities.

The key recommendations from the WIP that are of relevance to this project are:

- Preparing plans within stormwater and wastewater resource consents, so that there is a clear investment pathway for addressing issues in the municipal network.
- Repair and renewal of the public wastewater pipe network, so that people can be confident that pipes are fit for purpose and will keep wastewater out of local waterways.
- Stopping wastewater overflows, so that our systems reflect the complete unacceptability of sewerage polluting our waterways. Territorial authorities and the relevant three waters agency prioritise the repair and replacement of public wastewater assets that lead to overflows on private or public land. A target of zero wastewater overflows (by 2060) is achieved, except in infrequent situations (such as pump failures or rainfall events) with a >25-year average return period (ARI).
- The relevant three waters agency investigates, and reports to, GWRC and Mana Whenua (by 2022) on the feasibility of pre-treating wastewater overflows and any locations where this could be prioritised for upcoming Long Term Plan reviews.

It is considered that the proposal will go some of the way to achieving the outcomes sought by the WIP given that:

- The consent conditions require the preparation of Strategic and Sub-catchment Reduction Plans which is designed to ensure the consent holder progressively reduce the wastewater overflows and thereby minimise the adverse effects of the overflows. Each sub-catchment will have a Sub-catchment Reduction Plan prepared and implemented over the course of the consent.
- A key component of the Strategic Reduction Plan is the setting of the containment standard for the network. Once set the containment standard will apply for the duration of the consent.
- The setting of the containment standard will investigate a range of options for managing wastewater overflows including local treatment and disposal options.
- The target of zero wastewater overflows by 2060 is unlikely to be achieved for the overflows from the wastewater network due to the current gravity fed network and the cost to achieve this using current technology. It is, however, noted that an important function of the Collaborative

Committee is to recommend the option to be investigated by the consent holder for achieving or contributing to achieving the Zero Overflow Aspirations.

9.5 MARINE AND COASTAL AREA (TAKUTAI MOANA) ACT 2011

The Marine and Coastal Area (Takutai Moana) Act (MACAA) acknowledges the importance of the marine and coastal area to all New Zealanders and provides for the recognition of the customary rights of iwi, hapū and whānau in the common marine and coastal area.

Iwi, hapū or whānau group can obtain recognition of two types of customary interest under the Act:

- customary marine title
- protected customary rights

Customary marine title recognises the relationship of an iwi, hapū or whānau with a part of the common marine and coastal area. Customary marine title cannot be sold, and free public access, fishing and other recreational activities are allowed to continue in customary marine title areas.

If an iwi, hapū or whānau group has customary marine title recognised over an area, it has the right to give or decline permission, on any grounds, for an activity that requires resource consent under the RMA. However, this right does not limit the discretion of a consent authority to decline an application for a resource consent or to impose conditions.

Protected customary rights can be granted for a customary activity like collecting hāngi stones or launching waka in the common marine and coastal area. Where an iwi, hapū or whanau has a protected customary right recognised, consent authorities cannot grant resource consents for activities that would have an adverse effect on a protected customary right.

All applicants for resource consents in the common marine and coastal area need to notify and seek the views of any group that has applied for recognition of customary marine title in the area as per s62 of the MACAA. This must take place before the resource consent application is lodged. The table below sets out the list of customary marine title applicants that have been notified of the application.

Table 9-5: Applicants for Recognition of Customary Marine Title

Applicant Group	Representative Group	Application Area
Te Atiawa ki te Upoko o te Ika a Maui Potiki Trust	Te Rira Puketapu and Five other Trustees of the named trust	Pipinui Point (Boom Rock) to Mukamuka Iti (Windy Point) including Wellington Harbour. This area extends to 12 nautical miles offshore between these two points.
Ngati Toa Rangatira	Te Runanga o Toa Rangatira	From the mouth of the Whangaehu River to the Turakirae Heads, to the mouth of the Arahura River to the Kaikoura coast
Ngati Kahungunu ki Wairarapa Tamaki nui-a- Rua Settlement Trust	Ngati Kahungunu ki Wairarapa Tamaki nui-a- Rua Settlement Trust	Turakirae Head (Wainuiomata) to southern Hawkes Bay
Rangitane o Wairarapa and rangitane o Tamaki nui-a-rua iwi	The Trustees of Rangitane Tū Mai Rā Trust	Turakirae Head (Wainuiomata) to southern Hawkes Bay

9.6 STATUTORY ACKNOWLEDGEMENTS

A statutory acknowledgement is a formal acknowledgement by the Crown of the mana of tangata whenua over a specified area. It recognises the particular cultural, spiritual, historical and traditional association of an iwi with the site, which is identified as a statutory area. Statements of statutory acknowledgements are set out in Treaty of Waitangi claim settlement legislation.

Consent authorities, the Environment Court, and Heritage New Zealand Pouhere Taonga are required to have regard to a statutory acknowledgement when determining whether the relevant iwi may be adversely affected by the granting of a resource consent for activities within, adjacent to or impacting directly on the statutory area. The following table sets out the statutory acknowledgements of relevance to this project.

Table 9-6: Statutory Acknowledgements

Settlement Act	Statutory acknowledgement
Port Nicholson Block (Taranaki Whānui ki Te Upoko o Te Ika) Claims Settlement Act 2009	CMA including Wellington Harbour (as shown on SO 408070) Te Awa Kairangi / Hutt River (as shown on SO 408071) Waiwhetū (as shown on SO 408072) Wellington Harbour (as shown on SO 408073)
Ngāti Toa Rangatira Claims Settlement Act 2014	Te Awa Kairangi / Hutt River and its tributaries (as shown on Deed Plan OTS06845) Wellington Harbour (as shown on Deed Plan OTS06840)

9.7 PART 2 ASSESSMENT

Schedule 4, clause 2 of the RMA requires that an application for a resource consent must include an assessment of the activity against the matters set out in Part 2 of the Act. The following table provides this required assessment:

Table 9-7: RMA Part 2 Assessment

Part 2	Assessment
5. Purpose Promote the sustainable management of natural and physical resources. Managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while— (a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and (b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and (c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.	The wastewater network is an important component of a safe and reliable public health sanitation system which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety. The wastewater network is designed to overflow at constructed overflow locations during high rainfall events and other emergencies. These overflows take the pressure off other components of the network including those parts of the network on private property. The overflows assist in minimising the public's exposure to raw sewage overflowing onto their properties and backing up in toilets. While it is not ideal to have wastewater overflows to freshwater or coastal water the social, public health, economic, cultural and environmental effects of overflows within private property or on land with high public use are significantly greater than effects from designed overflow locations.

Part 2	Assessment
	The implementation of the consent in accordance with the proposed consent conditions will over the term of the consent assist in safeguarding the life-supporting capacity of air, water, soil, and ecosystems.
6. Matters of national importance Recognise and provide for the following matters of national importance: (a) the preservation of the natural character of wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development: (b) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development: (c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna: (d) the maintenance and enhancement of public access to and along rivers: (e) the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, and other taonga: (f) the protection of historic heritage from inappropriate subdivision, use, and development: (g) the protection of protected customary rights: (h) the management of significant risks from natural hazards.	The WNO discharges are intermittent, temporary, of a short duration and generally diluted by stormwater entering the network and occur in high rainfall conditions when flooded waterways may already carry a high contaminant load. Consequently, the WNOs should not compromise the preservation of natural character of water bodies or the protection of outstanding natural features and landscapes. The WNOs do not discharge into any Outstanding Natural Waterbodies. The implementation of the consent in accordance with the proposed consent conditions will over the term of the consent assist in protecting of areas of significant indigenous vegetation and significant habitats of indigenous fauna. The WNOs occur when there are high flows in the rivers and streams and weather conditions are very unpleasant. In these conditions it is unlikely that people will be seeking access to and along rivers for recreation purposes and particularly for primary contact. The Collaborative Committee which comprises equal representation from Mana Whenua and from the consent holder will be a critical decision-making body. Given the responsibilities of the Committee, it is anticipated that the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, and other taonga will be recognised and provided for in managing the WNOs.
7. Other matters Have particular regard to (a) kaitiakitanga: (aa) the ethic of stewardship: (b) the efficient use and development of natural and physical resources: (ba) the efficiency of the end use of energy: (c) the maintenance and enhancement of amenity values: (d) intrinsic values of ecosystems: (f) maintenance and enhancement of the quality of the environment: (g) any finite characteristics of natural and physical resources: (h) the protection of the habitat of trout and salmon: (i) the effects of climate change:	It is anticipated that the Collaborative Committee will enable Mana Whenua to exercise kaitiakitanga in the management of the WNOs over the term of the consent. The continued utilisation of the existing wastewater network will result in the efficient use of current resources. Progressively reducing the frequency of the WNOs over the term of the consent will contribute to the maintenance and enhancement of amenity values and the quality of the environment. The implementation of the consent in accordance with proposed consent conditions will over the term of the consent assist in minimising effects on intrinsic values of ecosystems. Modelling of wastewater flows is a key tool in the development of containment standards and the WNO Reduction Plans. The model assumptions take into account the predicted impact of climate change on rainfall and flow within the wastewater network.

Part 2	Assessment
(j) the benefits to be derived from the use and development of renewable energy.	
8. Te Tiriti o Waitangi In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Te Tiriti o Waitangi.	The Collaborative Committee which comprises equal representation from Mana Whenua and from the consent holder will be a decision-making body to reflect Te Tiriti o Waitangi.

Based on the above assessment it is considered that the proposal is consistent with Part 2 of the RMA. In addition, insofar as the relevant planning and policy instruments may be considered to give substance to Part 2 (such that further recourse to Part 2 is not required), the consistency of the proposal with the relevant documents is set out in sections 9.3 and 9.4.

10.0 APPROACH TO ENGAGEMENT

10.1 APPROACH

There has been a proactive approach to engagement, communication and information sharing to support informed and constructive engagement and feedback in relation to this application. We will be continuing to consult with communities and engage with mana whenua throughout the consenting process. This work may result in changes to the application to ensure appropriate community input and effective implementation of Te Mana o te Wai.

Engagement has occurred with the following parties:

- Councils
- Taranaki Whānui
- Ngāti Toa Rangatira
- Regional Public Health
- Interest groups
- The wider community

A discussion of each is provided below.

10.2 ENGAGEMENT ACTIONS

10.2.1 Councils

The HCC and UHCC Councils have been kept informed through direct briefings to key officials and reporting through the Hutt Valley Services Committee. In addition, Wellington Water has directly engaged with the elected members regarding the role of mana whenua in the implementation phase of the consent.

GWRC has been kept informed of progress in developing the consent application through regular updates at officer level.

10.2.2 Taranaki Whānui

Wellington Water has a formal relationship (set out in Memoranda of Partnership) with Taranaki Whānui/Port Nicholson Block Settlement Trust. This is under review to reflect the volume of work that is envisaged for mana whenua under this and other network discharge consents.

Initially, a meeting was held with Kirsty Tamanui, Taranaki Whānui/Port Nicholson Block Settlement Trust Chief Executive (until 2021). Kirsty Tamanui agreed to Wellington Water contracting a consultant to prepare a cultural impact report for consideration by trustees. That report is discussed in more detail in section 7.3.

We have also had two meetings with the current CE, Lee Hunter, who is interested in the proposals that Wellington Water is putting forward for collaboration however, more certainty is required regarding resourcing the mana whenua roles in the consent before Taranaki Whānui will provide a formal view. Wellington Water will continue to progress this work.

Early indications are that the views of Port Nicholson Block Settlement Trust & Wellington Tenths Trust, and Taranaki Whānui are reflected in the Cultural Impact Assessment and in Te Mahere Wai. Mana whenua representatives expressed concern about wastewater discharges into the harbour and asked whether Wellington Water was accounting for population growth. They asked about plans to involve iwi

to ensure a high level of transparency about overflows, and how to entrench iwi into operational aspects of Wellington Water's work.

While the resourcing issues are progressed, Wellington Water is continuing to engage with Taranaki Whānui in relation to the strategic management plan set out in section 4 of this application, the role of Mātauranga Māori monitoring and a range of other matters.

10.2.3 Ngāti Toa Rangatira

Through Te Rūnanga o Toa Rangatira, Ngāti Toa Rangatira have been offered the opportunity to comment on both the Strategic Management Plan and methodology and on the Hutt catchment, given their interests in parts of the catchment.

Similar to Taranaki Whānui, resourcing arrangements need to be resolved before we can commence engagement with Ngāti Toa, who have confirmed their interest in this Hutt Valley catchment. Wellington Water will continue to progress this work.

10.2.4 Regional Public Health

A meeting was held with Mike Fisher, Health Protection officer, on 2 October 2020. Feedback was limited, given the pressure on Regional Public Health from Covid19. There was support for the general approach to reducing overflows and ensuring there was an adequate response when overflows happened.

We touched base again in September 2022 and Regional Public Health sought more details on the proposed communication plan and the environmental effects assessment. This will be provided to Regional Public Health once it becomes available.

10.2.5 Interest groups

A meeting was held with the Waiwhetū Consultation Group, established as part of the Seaview Wastewater Treatment Plant consent. This group includes:

- East Harbour Environmental Association Inc
- Wellington Recreational Marine Fishers' Association (Inc)
- Friends of the Waiwhetū Stream
- Regional Public Health
- Te Runanganui o Taranaki Whanui ki te Upoko o te Ika a Maui Inc

A number of questions were raised about prioritisation and funding reductions in overflows. There was also discussion about how improvements would be measured.

A meeting was offered to the Friends of Hutt River, but no response was received.

A further 20 environmental and recreational groups have been invited to comment through the online engagement tool, Social Pinpoint, and to encourage their members to do so.

10.2.6 Community

The wider community has been invited to have their say online, using Social Pinpoint https://wellingtonwater.mysocialpinpoint.com/hutt

This invited people to comment on a map showing rivers and streams, and COPs. There was also a short survey asking people about what they value about their river or stream; whether they have noticed any overflows, and about their awareness of public health risks and what causes problems in the wastewater network.

The Social Pinpoint site was promoted through:

- media (a media release and advertisements in the two local newspapers)
- Social media
- Emails to stakeholder groups.

The Social Pinpoint site was open for comments for almost five weeks, 10 November to 14 December 2020. There were over 1000 visits to the site from 364 unique users. There were 10 comments on the map (full results in Appendix 3);

- 4 related to Black Creek and expressed concerns about overflow levels
- 4 related to Waiwhetū Stream, 3 noting ongoing pollution.

There were 25 survey responses; summarised in Table 10-1.

Table 10-1: Survey Responses

Theme	Feedback
Values (what is important to you)	15 responses mentioned swimming and/or walking and other recreation. 5 of these specifically mentioned fishing/gathering food. 10 referred to an emotional connection to the waterway *"This river is the heart of the Hutt Valley"* *"As a child we did extensive plantings here and seeing how they have grown makes it a very special place."* *"River should be cared for because it cares for us in providing a place to swim, fish, etc"*
Evidence of overflows	About half (13) have noticed evidence of overflows (Hutt 6; Waiwhetū 5, Te Mome 1, Petone Beach 1). People reported noticing human waste, smells, dirty water, 'sudsing' and overflows form manholes. *Te Mome: The stream often has oily residue, or is murky and funny smelling*
Swimming	Three quarters (18) were aware they should not swim for 48 hours after heavy rain; half (12) looked for information on water quality before swimming.
Looking after wastewater	High awareness of what should and should not go down the drain, almost all say they follow guidance. Around half say they maintain gully traps and lateral pipes, one request for more information on this. Around half say they make sure gutters and pipes are correctly connected.
State of the network (general comments)	Four comments on the poor state of the network; two reports of cross connections at the construction stage not being picked up by the council, call for education, enforcement action and investment by HCC.
Signage (general comments)	Petone beach: *'It would be useful if there was more information sign posted at the beach about where the outfalls where so we could avoid them when swimming.'*

Theme	Feedback
Support for action (general comments)	*'Please do whatever you can to reduce the amount of wastewater in our streams and rivers'* *'All new housing should have not only rainwater tanks but grey water recycling to reduce input into the network.'* *'I know there's an emphasis on run off but I think taking too much water should also be looked at as a leading contributor to bad waterways.'*
Other issues (general comments)	*Companies should not be making profit off our water (e.g. Refreshment Place water bottling)*

11.0 PROPOSED CONSENT CONDITIONS

A set of proposed consent conditions is included in Appendix 4.

12.0 CONCLUSIONS

Wellington Water, as a CCO of Upper Hutt City Council and Hutt City Council, is applying to the GWRC for a resource consent relating to wet weather overflows from the Hutt Valley and Wainuiomata wastewater network.

Wet weather overflows occur from our wastewater network when the network becomes overloaded with rainwater and groundwater. While our wastewater network is designed to carry some excess water, eventually excess flow will exceed network capacity. At these times, overflows of wastewater diluted by rainwater and groundwater will occur. Overflows can occur from either deliberately constructed overflow points (e.g. at pump stations) or from uncontrolled overflow points (e.g. manhole lids) and can discharge directly into the environment or flow into the stormwater network before being discharged to the environment.

There are currently many reported overflow events in the Hutt Valley and Wainuiomata each year. Some of these events involve overflows at several different points at the same time. Computer modelling indicates that climate change and our ageing network will cause more overflows to occur unless we intervene.

We plan to address this significant problem by making progressive improvements over the next 35 years through a strategic management plan that has four main elements to it.

First, and at its heart is our commitment to work towards Te Mana o te Wai. Te Mana o te Wai is a concept that refers to the fundamental importance of water and recognises that protecting the health of water protects the health and well-being of the wider environment and the community.

Second, to deliver Te Mana o Te Wai we will seek to achieve the following consent objectives:

1. The frequency of wet weather overflow events is progressively reduced
2. Partnerships are developed with Mana Whenua for the oversight, planning and implementation of the resource consent for wet weather overflows
3. The reduction of wet weather overflows is prioritised in sub-catchments where the overflows are having an adverse effect on Mana Whenua sites of significance
4. Wet Weather Overflows caused by issues in the public network do not enter habitable dwellings or private property.

Third, to oversee the implementation of these objectives we will establish a Collaborative Committee with Mana Whenua. The functions of the Committee will include determining the 'containment standard' for the wastewater network, prioritising the sub-catchments for improvement and developing the plans to do so. The Committee's decisions will be informed by community groups that will be set up under this consent.

Fourth, the key mechanisms that we will use to plan and deliver on the objectives of this consent are the Strategic Reduction Plan and the Sub-catchment Reduction Plans. The Strategic Reduction Plan will apply across the Hutt Valley and Wainuiomata and set the big picture for the consent, e.g. the containment standard and the prioritization of sub-catchments. We will prepare a single Strategic Reduction Plan, and review and update it every six years.

We will also develop a Sub-catchment Reduction Plan for each of the 16 wastewater network sub-catchments that are located in the Hutt Valley and Wainuiomata. They will be prepared progressively based on the priorities set by the Collaborative Committee and will set out how wet weather overflows will be reduced in that sub-catchment to meet the containment standard. As the Sub-catchment Reduction Plans will be prepared progressively some parts of the Hutt Valley and Wainuiomata will see

improvement sooner than other parts. However, improvement will be implemented in all sub-catchments within 35 years. Each Sub-catchment Reduction Plan will have a list of infrastructure interventions such as increased pipe capacity, storage tanks and inflow and infiltration programmes as well as policy and regulatory solutions. Implementation of each Sub-catchment Reduction Plan will take several years, depending on the scale of investment required, and will likely come at a significant cost.

We have included draft conditions in Appendix 4 under which we propose to deliver this plan and, on our commitment, to make progressive improvement.

APPENDICES

APPENDIX 1: ASSESSMENT OF THE WASTEWATER NETWORK DISCHARGES IN RELATION TO THE RELEVANT PLANNING INSTRUMENTS

Table 1: New Zealand Coastal Policy Statement 2010

Key Objectives / Policies	Relevance / Discussion	Assessment
Ecosystems / Natural character / Water quality <u>Objective 1</u> To safeguard the integrity, form, functioning and resilience of the coastal environment and sustain its ecosystems, including marine and intertidal areas, estuaries, dunes and land, by: • maintaining or enhancing natural biological and physical processes in the coastal environment and recognising their dynamic, complex and interdependent nature; • protecting representative or significant natural ecosystems and sites of biological importance and maintaining the diversity of New Zealand's indigenous coastal flora and fauna; and • maintaining coastal water quality, and enhancing it where it has deteriorated from what would otherwise be its natural condition, with significant adverse effects on ecology and habitat, because of discharges associated with human activity. <u>Objective 2</u> To preserve the natural character of the coastal environment and protect natural features and landscape values through: • recognising the characteristics and qualities that contribute to natural character, natural features and landscape values and their location and distribution; • identifying those areas where various forms of subdivision, use, and development would be inappropriate and protecting them from such activities; and • encouraging restoration of the coastal environment. <u>Policy 11: Indigenous biological diversity</u>	Several network overflows discharge directly to the coastal environment and for a number of overflows the coastal environment is the indirect receiving environment.	The discharges occur at a variety of locations in the coastal environment. Given the nature of the overflows it is very difficult to determine the contribution, if any, that the discharge makes to any adverse effects on the coastal environment. It is noted however, that: • one of the Wastewater Network Objectives requires that the consent holder to progressively reduce the frequency of WNOs • the Strategic and Sub-catchment Reduction Plans are designed to achieve this objective and the containment standard over the term of the consent; and • the Collaborative Committee is responsible for ensuring the WNO Objectives and the containment standard are achieved and monitoring progress in achieving the objectives and standard. The WNO Objectives and the requirements associated with them have been included in the proposed consent conditions. Implementation of the consent in accordance with conditions will over the

Key Objectives / Policies	Relevance / Discussion	Assessment
To protect indigenous biological diversity in the coastal environment: a) avoid adverse effects of activities on: i. indigenous taxa that are listed as threatened or at risk in the New Zealand Threat Classification System lists; ii. taxa that are listed by the International Union for Conservation of Nature and Natural Resources as threatened; iii. indigenous ecosystems and vegetation types that are threatened in the coastal environment, or are naturally rare; iv. habitats of indigenous species where the species are at the limit of their natural range, or are naturally rare; v. areas containing nationally significant examples of indigenous community types; and vi. areas set aside for full or partial protection of indigenous biological diversity under other legislation; and b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on: i. areas of predominantly indigenous vegetation in the coastal environment; ii. habitats in the coastal environment that are important during the vulnerable life stages of indigenous species; iii. indigenous ecosystems and habitats that are only found in the coastal environment and are particularly vulnerable iv. to modification, including estuaries, lagoons, coastal wetlands, dunelands, intertidal zones, rocky reef systems, eelgrass and saltmarsh; v. habitats of indigenous species in the coastal environment that are important for recreational, commercial, traditional or cultural purposes; vi. habitats, including areas and routes, important to migratory species; and vii. ecological corridors, and areas important for linking or maintaining biological values identified under this policy.		term of the consent assist in safeguarding the integrity, form, functioning and resilience of the coastal environment, sustaining its ecosystems and preserving natural character. The Collaborative Committee will be responsible for determining the prioritisation of sub-catchments for the preparation and implementation of Sub-catchment Reduction Plans. Where sub-catchments have been identified as being adversely affected by WNOs, it is anticipated that these catchments will be the first priority for the preparation and implantation of Sub-catchment Reduction Plans and improvement works.

Key Objectives / Policies	Relevance / Discussion	Assessment
<u>Policy 13: Preservation of natural character</u> 1. To preserve the natural character of the coastal environment and to protect it from inappropriate subdivision, use, and development: a) avoid adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character; and b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on natural character in all other areas of the coastal environment; including by: c) assessing the natural character of the coastal environment of the region or district, by mapping or otherwise identifying at least areas of high natural character; and d) ensuring that regional policy statements, and plans, identify areas where preserving natural character requires objectives, policies and rules, and include those provisions. 2. Recognise that natural character is not the same as natural features and landscapes or amenity values and may include matters such as: a) natural elements, processes and patterns; b) biophysical, ecological, geological and geomorphological aspects; c) natural landforms such as headlands, peninsulas, cliffs, dunes, wetlands, reefs, freshwater springs and surf breaks; d) the natural movement of water and sediment; e) the natural darkness of the night sky; f) places or areas that are wild or scenic; g) a range of natural character from pristine to modified; and h) experiential attributes, including the sounds and smell of the sea; and their context or setting.		In relation to Policy 13, it is considered that given the WNOs are intermittent, temporary, of short duration and diluted, and taking into account the state of the receiving environment during these events, any adverse effects will not prevent the natural character of the receiving environments from being preserved.
<u>Policy 21: Enhancement of water quality</u> Where the quality of water in the coastal environment has deteriorated so that it is having a significant adverse effect on ecosystems, natural habitats, or water based recreational activities, or is restricting existing uses, such as aquaculture, shellfish gathering, and cultural activities, give priority to improving that quality by:		The Strategic and Sub-catchment reduction plans are designed to achieve the WNO objective to progressively reduce the frequency of WNOs.

Key Objectives / Policies	Relevance / Discussion	Assessment
(a) identifying such areas of coastal water and water bodies and including them in plans; (b) including provisions in plans to address improving water quality in the areas identified above; (c) where practicable, restoring water quality to at least a state that can support such activities and ecosystems and natural habitats; (d) requiring that stock are excluded from the coastal marine area, adjoining intertidal areas and other water bodies and riparian margins in the coastal environment, within a prescribed time frame; and (e) engaging with tangata whenua to identify areas of coastal waters where they have particular interest, for example in cultural sites, wāhi tapu, other taonga, and values such as mauri, and remedying, or, where remediation is not practicable, mitigating adverse effects on these areas and values. <u>Policy 23</u> 1. In managing discharges to water in the coastal environment, have particular regard to: a. the sensitivity of the receiving environment; b. the nature of the contaminants to be discharged, the particular concentration of contaminants needed to achieve the required water quality in the receiving environment, and the risks if that concentration of contaminants is exceeded; and c. the capacity of the receiving environment to assimilate the contaminants; and: d. avoid significant adverse effects on ecosystems and habitats after reasonable mixing; e. use the smallest mixing zone necessary to achieve the required water quality in the receiving environment; and		The implementation of the Strategic and Sub-catchment Reduction Plans and, in particular the Sub-catchment Reduction Plan which contains the programme of improvement works and initiatives, will assist in enhancing water quality in the coastal environment where it has deteriorated to the extent that it is having a significant adverse effect. The Collaborative Committee will be responsible for determining the prioritisation of sub-catchments and it is anticipated that sub-catchments in the coastal environment where significant adverse effects can be attributed to the WNOs will be prioritised by the Committee. In terms of Policy 23 clause 2, discharges of untreated human sewage will continue to occur to the coastal environment. While ideally this should not occur, it is noted that wet weather overflows are necessary to assist in reducing the public's exposure to raw sewage overflowing at locations which present greater public health risks, e.g. on private property. The Department of Conservation's guidance note on Policy 23[1] recognises that overflow discharges to water in the coastal environment may be unavoidable. In such instances it recommends

[1] https://www.doc.govt.nz/about-us/science-publications/conservation-publications/marine-and-coastal/new-zealand-coastal-policy-statement/policy-statement-and-guidance/sewage-discharges/

Key Objectives / Policies	Relevance / Discussion	Assessment
f. minimise adverse effects on the life-supporting capacity of water within a mixing zone. 2. In managing discharge of human sewage, do not allow: a. discharge of human sewage directly to water in the coastal environment without treatment; and b. the discharge of treated human sewage to water in the coastal environment, unless: i. there has been adequate consideration of alternative methods, sites and routes for undertaking the discharge; and ii. informed by an understanding of tangata whenua values and the effects on them.		applications demonstrate an on-going commitment and programme to reduce the occurrence of such discharges. The application is consistent with this guidance as the Strategic and Sub-catchment Reduction Plans are designed to progressively reduce overflow discharges across the sub-catchments in accordance with priorities determined by the Collaborative Committee. The guidance note also recommends that reporting and monitoring protocols be included as conditions of the consent. Wellington Water has proposed such conditions as part of the application. In addition, Policy 23 of the NZCPS has been 'given effect to' by various PNRP provisions which provide more granular guidance on the management of wastewater discharges, as discussed below. Based on the above assessments it is considered the proposal is generally consistent with the NZCPS's objectives and policies relating to ecosystems, natural character and water quality.
Tangata whenua <u>Objective 3</u> To take account of the principles of the Treaty of Waitangi, recognise the role of tangata whenua as kaitiaki and provide for tangata whenua involvement in management of the coastal environment by: • recognising the ongoing and enduring relationship of tangata whenua over their lands, rohe and resources;		Wellington Water is working to ensure that tangata whenua are active partners in resolving issues associated with the management of the wastewater network. In the first instance, a cultural impact assessment has been commissioned, as part of the application documentation, on behalf of Taranaki Whānui ki Te Upoko o Te Ika and Ngāti Toa. This assessment

Key Objectives / Policies	Relevance / Discussion	Assessment
• promoting meaningful relationships and interactions between tangata whenua and persons exercising functions and powers under the Act; • incorporating mātauranga Māori into sustainable management practices; and • recognising and protecting characteristics of the coastal environment that are of special value to tangata whenua. <u>Policy 2: The Treaty of Waitangi, tangata whenua and Māori</u> In taking account of the principles of the Treaty of Waitangi (Te Tiriti o Waitangi), and kaitiakitanga, in relation to the coastal environment: a) recognise that tangata whenua have traditional and continuing cultural relationships with areas of the coastal environment, including places where they have lived and fished for generations; b) involve iwi authorities or hapū on behalf of tangata whenua in the preparation of regional policy statements, and plans, by undertaking effective consultation with tangata whenua; with such consultation to be early, meaningful, and as far as practicable in accordance with tikanga Māori; c) with the consent of tangata whenua and as far as practicable in accordance with tikanga Māori, incorporate mātauranga Māori in regional policy statements, in plans, and in the consideration of applications for resource consents, notices of requirement for designation and private plan changes; d) provide opportunities in appropriate circumstances for Māori involvement in decision making, for example when a consent application or notice of requirement is dealing with cultural localities or issues of cultural significance, and Māori experts, including pūkenga2, may have knowledge not otherwise available; e) take into account any relevant iwi resource management plan and any other relevant planning document recognised by the appropriate iwi authority or hapū and lodged with the council, to the extent that its content has a bearing on resource management issues in the region or district; and		identifies the freshwater values held by Māori in the Hutt and Wainuiomata catchments and concludes with recommendations for the management of key network discharges. Critical to this process is the Collaborative Committee which will comprise an equal number of members from Mana Whenua and the consent holder. The overall purpose of the Wastewater Network Collaborative Committee is to provide strategic direction to the consent holder to achieve the wastewater network overflow objectives and the containment standard over the term of the consent. A key responsibility of the Collaborative Committee is to oversee the development of Strategic and Sub-catchment Reduction Plans which includes prioritising sub-catchments and improvements. Other functions of the Collaborative Committee include • Overseeing the preparation and implementation of the Mātauranga Māori Monitoring Plan. This Plan will be required to be aligned with the Regional Kaitiaki Monitoring Framework (Method M2 of the pNRP). • Recommending the option to be investigated that will achieve or contribute to the achievement of Zero Overflow Aspirations. The WNO Objectives are key to the future management of the overflows as the consent conditions require consent holder

Key Objectives / Policies	Relevance / Discussion	Assessment
i. where appropriate incorporate references to, or material from, iwi resource management plans in regional policy statements and in plans; and ii. consider providing practical assistance to iwi or hapū who have indicated a wish to develop iwi resource management plans; f) provide for opportunities for tangata whenua to exercise kaitiakitanga over waters, forests, lands, and fisheries in the coastal environment through such measures as: i. bringing cultural understanding to monitoring of natural resources; ii. providing appropriate methods for the management, maintenance and protection of the taonga of tangata whenua; iii. having regard to regulations, rules or bylaws relating to ensuring sustainability of fisheries resources such as taiāpure, mahinga mātaitai or other non commercial Māori customary fishing; g) in consultation and collaboration with tangata whenua, working as far as practicable in accordance with tikanga Māori, and recognising that tangata whenua have the right to choose not to identify places or values of historic, cultural or spiritual significance or special value: i. recognise the importance of Māori cultural and heritage values through such methods as historic heritage, landscape and Cultural Impact Assessments; and ii. provide for the identification, assessment, protection and management of areas or sites of significance or special value to Māori, including by historic analysis and archaeological survey and the development of methods such as alert layers and predictive methodologies for identifying areas of high potential for undiscovered Māori heritage, for example coastal pā or fishing villages.		to achieve the objectives over the term of the consent. They include objectives requiring: • Partnership with Mana Whenua for the oversight, planning and implementation of the resource consents for wastewater overflows, and • Priority for the reduction of wet weather overflows in catchments where the overflows are having an adverse effect on Mana Whenua sites of significance A Mātauranga Māori expert will also support the consent holder in preparing the Strategic and Sub-catchment Reduction Plans and their various components. The Collaborative Committee structure has been designed to facilitate opportunities for Mana Whenua to exercise kaitiakitanga and to recognise the role of tangata whenua as kaitiaki. Having a Mātauranga Māori expert support the consent holder in in preparing the Strategic and Sub-catchment Reduction Plans will facilitate incorporating mātauranga Māori into the future management of the wastewater overflows. Prioritising the reduction of wet weather overflows in catchments where the overflows are having an adverse effect on Mana Whenua sites of significance (WNO Objective c.) should facilitate the protection and management of areas or

Key Objectives / Policies	Relevance / Discussion	Assessment
		sites of significance or special value to Māori. Based on the above assessment it is anticipated that the WNO objectives, the Collaborative Committee and the Strategic and Sub-catchment Reduction Plans required through the proposed consent conditions will assist in meeting the NZCPS's objectives and policies relating to tangata whenua. It is acknowledged however that this needs to be determined by Mana Whenua.
Public access and recreation Objective 4 To maintain and enhance the public open space qualities and recreation opportunities of the coastal environment by: • recognising that the coastal marine area is an extensive area of public space for the public to use and enjoy; • maintaining and enhancing public walking access to and along the coastal marine area without charge, and where there are exceptional reasons that mean this is not practicable providing alternative linking access close to the coastal marine area; and • recognising the potential for coastal processes, including those likely to be affected by climate change, to restrict access to the coastal environment and the need to ensure that public access is maintained even when the coastal marine area advances inland.	Wastewater network discharges are one source of contaminants that negatively impact on recreation values of the coastal environment, particularly during periods of heavy rain.	It is considered that the application is generally consistent with this objective. Over time, the Strategic and Sub-catchment Reduction Plans will reduce wastewater network discharges and thereby, among other things, contribute to enhancing recreation values in the catchment. However, it needs to be recognised that reductions in the frequency of the wastewater network discharges covered by this application will not on their own ensure recreation values are enhanced. This is because the restrictions on recreation opportunities are caused by a variety of factors not just these wastewater network discharges. It is noted that during a wet weather overflow event it is expected that the weather conditions would not generally be conducive to undertaking recreation activities.

Key Objectives / Policies	Relevance / Discussion	Assessment
Use and development Objective 6 To enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, through subdivision, use, and development, recognising that: • the protection of the values of the coastal environment does not preclude use and development in appropriate places and forms, and within appropriate limits; • some uses and developments which depend upon the use of natural and physical resources in the coastal environment are important to the social, economic and cultural wellbeing of people and communities; • functionally some uses and developments can only be located on the coast or in the coastal marine area; • the coastal environment contains renewable energy resources of significant value; • the protection of habitats of living marine resources contributes to the social, economic and cultural wellbeing of people and communities; • the potential to protect, use, and develop natural and physical resources in the coastal marine area should not be compromised by activities on land; • the proportion of the coastal marine area under any formal protection is small and therefore management under the Act is an important means by which the natural resources of the coastal marine area can be protected; and • historic heritage in the coastal environment is extensive but not fully known, and vulnerable to loss or damage from inappropriate subdivision, use, and development.		The WNO discharges are part of the operation of the wastewater network, which is 'regionally significant infrastructure' and important to community health and wellbeing. As the wastewater network has a physical conveyance capacity it is designed to overflow if flows exceed this capacity during heavy rainfall events. At these times inflow and infiltration to the network results in significantly increased flow through the network. The overflow discharges take the pressure off other parts of the network and reduce risk of discharges from these other locations, including those on private property. While it is not ideal to have wastewater overflow discharges to coastal waters the social, public health, economic and cultural effects of overflows at other locations, including within people's homes, would be greater. Given that parts of the wastewater network are located alongside the boundary of the CMA, overflows from these parts of the network are functionally dependent on being located in the CMA. For instance, several wastewater pump stations are located at the coastal edge along the eastern bays of Wellington harbour where overflows cannot drain to anywhere except the coastal marine area.

Table 2: National Policy Statement for Freshwater Management 2020

Key Objectives / Policies	Relevance	Assessment
Te Mana o te Wai Concept (1) Te Mana o te Wai is a concept that refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. It protects the mauri of the wai. Te Mana o te Wai is about restoring and preserving the balance between the water, the wider environment, and the community. (2) Te Mana o te Wai is relevant to all freshwater management and not just to the specific aspects of freshwater management referred to in this National Policy Statement. Framework (3) Te Mana o te Wai encompasses 6 principles relating to the roles of tangata whenua and other New Zealanders in the management of freshwater, and these principles inform this National Policy Statement and its implementation. (4) The 6 principles are: (a) Mana whakahaere: the power, authority, and obligations of tangata whenua to make decisions that maintain, protect, and sustain the health and well-being of, and their relationship with, freshwater (b) Kaitiakitanga: the obligation of tangata whenua to preserve, restore, enhance, and sustainably use freshwater for the benefit of present and future generations (c) Manaakitanga: the process by which tangata whenua show respect, generosity, and care for freshwater and for others (d) Governance: the responsibility of those with authority for making decisions about freshwater to do so in a way that prioritises the health and well-being of freshwater now and into the future (e) Stewardship: the obligation of all New Zealanders to manage freshwater in a way that ensures it sustains present and future generations (f) Care and respect: the responsibility of all New Zealanders to care for freshwater in providing for the health of the nation.	The Te Mana o te Wai concept, framework, objective and policy are relevant to all freshwater management decisions. Many of the wastewater network discharges are to freshwater environments.	The application recognises the importance of protecting the health of freshwater (consistent with Te Mana o te Wai) through the requirement to prepare and implement the Strategic and Sub-catchment Reduction Plans. The Plans will set the containment standard and establish improvement programmes and priorities in sub-catchments which are designed to achieve the containment standard. The development of the Strategic and Sub-catchment Reduction Plans will be overseen by the Collaborative Committee. The Committee's responsibility in prioritising sub-catchments for improvement should facilitate prioritising the health and well-being of water bodies and freshwater ecosystems. The Collaborative Committee has been designed to implement the Te Mana o te Wai principles relating to mana whakahaere, kaitiakitanga and manaakitanga to inform the development of the Strategic and Sub-catchment Reduction Plans and the prioritisation of sub-catchments and improvement works. It is not ideal having WNOs discharging from wastewater networks to freshwater. However, the discharges assist in reducing the public's exposure to raw sewage overflowing at locations which present greater public health risks, e.g. on private property and land that is frequently used by the public. The implementation of the consent in accordance with the proposed conditions should

Key Objectives / Policies	Relevance	Assessment
(5) There is a hierarchy of obligations in Te Mana o te Wai that prioritises: (a) first, the health and well-being of water bodies and freshwater ecosystems (b) second, the health needs of people (such as drinking water) (c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future. <u>Objective</u> (1) The objective of this National Policy Statement is to ensure that natural and physical resources are managed in a way that prioritises: (a) first, the health and well-being of water bodies and freshwater ecosystems (b) second, the health needs of people (such as drinking water) (c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future. <u>Policy 1</u> Freshwater is managed in a way that gives effect to Te Mana o te Wai.		generally assist in giving effect to Te Mana o te Wai.
Freshwater quality, values and habitats <u>Policy 5</u> Freshwater is managed through a National Objectives Framework to ensure that the health and well-being of degraded water bodies and freshwater ecosystems is improved, and the health and well-being of all other water bodies and freshwater ecosystems is maintained and (if communities choose) improved. <u>Policy 7</u> The loss of river extent and values is avoided to the extent practicable. <u>Policy 9</u> The habitats of indigenous freshwater species are protected. <u>Policy 10</u> The habitat of trout and salmon is protected, insofar as this is consistent with Policy 9. <u>Policy13</u>	Many network discharges are to freshwater and have the potential to effect freshwater quality, values and habitats.	The application generally aligns with these policies. The Strategic and Sub-catchment Reduction Plans that are to be developed and implemented through the proposed consent conditions will ensure that that degradation of freshwater bodies is reduced overtime through the reduction in frequency of the overflows. The Collaborative Committee is responsible for prioritising sub-catchments and improvements through the preparation and implementation of the Sub-catchment Reduction Plans. Where sub-catchments are identified as being degraded and this degradation has been contributed to by the WNOs, it is anticipated that these catchments will be the initial focus of the of the Collaborative Committee in determining the

Key Objectives / Policies	Relevance	Assessment
The condition of water bodies and freshwater ecosystems is systematically monitored over time, and action is taken where freshwater is degraded, and to reverse deteriorating trends.		prioritised catchments through the Strategic Reduction Plan. Any adverse effects that do occur should be reduced over time with the reduction in the frequency of the WNOs and the achievement of the containment standard. Therefore, it is expected that any further loss of freshwater values should be avoided and that the Strategic and Sub-catchment Reduction Plans should progressively contribute to the enhancement of freshwater values and over time, so that the protection of indigenous biodiversity values is not prevented by the discharges. The six yearly reviews and updates of the Strategic Reduction Plan have the potential to provide opportunities to respond to plan changes to the Natural Resources Plan to implement the National Objectives Framework.
Integrated management Policy 3 Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving environments.	This objective promotes integrated management which is what the proposal is seeking to achieve over the longer term.	The proposal strongly aligns with this objective as it seeks to set in place through consent conditions the implementation of a Strategic Management Plan for an integrated catchment based and sub-catchment approach to the management of wastewater network discharges for the Hutt Valley and Wainuiomata wastewater network catchment.
Tangata whenua Policy 2 Tangata whenua are actively involved in freshwater management (including decision making processes), and Māori freshwater values are identified and provided for.	Various overflows discharge to freshwater and have the potential to effect tangata whenua values and interests.	Wellington Water is working to ensure that tangata whenua are active partners in resolving issues associated with the management of the wastewater network. In the first instance, a cultural impact assessment has been commissioned, as part of the application documentation, on behalf of

Key Objectives / Policies	Relevance	Assessment
		Taranaki Whānui ki Te Upoko o Te Ika and Ngāti Toa. This assessment identifies the freshwater values held by Māori in the Hutt and Wainuiomata catchments and concludes with recommendations for the management of key network discharges. Central to this process is the Collaborative Committee which will comprise an equal number of members from Mana Whenua and the consent holder. The overall purpose of the Collaborative Committee is to provide strategic direction to the consent holder to achieve the wastewater network overflow objectives and the containment standards over the term of the consent. A key responsibility of the Collaborative Committee is to oversee the development of the Strategic Reduction Plan which includes setting the prioritised sub-catchments. The recommendations from the cultural impact assessment will be used to inform the prioritisation of the sub-catchments. Other functions of the Collaborative Committee include: • overseeing the preparation and implementation of the Mātauranga Māori Monitoring Plan. This Plan will be required to be aligned with the Regional Kaitiaki Monitoring Framework (Method M2 of the PNRP). • Determining an option for further investigation that will achieve or contribute to achieving the Zero Overflow Aspirations. The WNO Objectives are key to the future management of the overflows as the consent

Key Objectives / Policies	Relevance	Assessment
		conditions require consent holder to achieve the objectives over the term of the consent. They include objectives requiring: • A partnership with Mana Whenua for the oversight, planning and implementation of the resource consents for wastewater overflows, and • Priority to the reduction of wet weather overflows in sub-catchments where the overflows are having an adverse effect on Mana Whenua sites of significance The Collaborative Committee has been designed to facilitate opportunities for Mana Whenua to exercise kaitiakitanga and to recognise the role of tangata whenua as kaitiaki. Having a Mātauranga Māori expert support the consent holder in preparing the Strategic and Sub-catchment Reduction Plans will facilitate incorporating mātauranga Māori into the future management of the wastewater overflows. Prioritising the reduction of wet weather overflows in catchments where the overflows are having an adverse effect on Mana Whenua sites of significance as proposed in the WNO Objectives should facilitate the protection and management of areas or sites of significance or special value to Māori. Based on the above assessment it is anticipated that the WNO Objectives, the Collaborative Committee and Strategic and Sub-catchment Reduction Plans required through the proposed consent conditions will assist in meeting Policy 2. It is acknowledged however that this needs to be determined by Mana Whenua.

Key Objectives / Policies	Relevance	Assessment
River extent and values Clause 3.24 Rivers of the NPS-FM requires that every regional council must include the following policy (or words to the same effect) in its regional plan(s): "The loss of river extent and values is avoided, unless the council is satisfied: (a) that there is a functional need for the activity in that location; and (b) the effects of the activity are managed by applying the effects management hierarchy." The NPS-FM defines loss of value as: loss of value, in relation to a natural inland wetland or river, means the wetland or river is less able to provide for the following existing or potential values: (a) any value identified for it under the NOF process; or (b) any of the following, whether or not they are identified under the NOF process: (i) ecosystem health (ii) indigenous biodiversity (iii) hydrological functioning (iv) Māori freshwater values (v) amenity The NPS defines functional need as: the need for a proposal or activity to traverse, locate or operate in a particular environment because the activity can only occur in that environment The NPS-FM defines the effects management hierarchy, in relation to rivers as: approach to managing the adverse effects of an activity on the extent or values of a river (including cumulative effects and loss of potential value) that requires that: (a) adverse effects are avoided where practicable; and (b) where adverse effects cannot be avoided, they are minimised where practicable; and		The assessment of effects for the Hutt and Wainuiomata catchments has identified sub-catchments and receiving environments where the overall level of effect of the WNOs is assessed as high/significant and moderate/more than minor. Consequently, it cannot be said that the loss of river values is avoided. It is therefore necessary to demonstrate that there is a functional need for the overflows to discharge to freshwater and the effects of the overflow discharges can be managed by applying the effects management hierarchy. There is a functional need for the wastewater overflows to discharge to rivers and streams. The wastewater network is purposely designed with relief points that during heavy rainfall events and other emergencies discharge to rivers and streams to reduce the risk of untreated wastewater overflowing into private property. The health risks associated with the discharge to rivers and streams are significantly less when compare with the risks associated with discharges to private property. This is because the wastewater is diluted by the freshwater receiving environment and there is far less chance of direct public exposure. The methodology adopted for the environmental effects assessment of the overflows and the Strategic Management Plan for the future management of the WNOs is consistent the NPS-FM effects management hierarchy because: • the Collaborative Committee will through the Strategic Reduction Plan prioritise the sub-catchments most adversely affected by the WNOs

Key Objectives / Policies	Relevance	Assessment
(c) where adverse effects cannot be minimised, they are remedied where practicable; and (d) where more than minor residual adverse effects cannot be avoided, minimised, or remedied, aquatic offsetting is provided where possible; and (e) if aquatic offsetting of more than minor residual adverse effects is not possible, aquatic compensation is provided; and (f) if aquatic compensation is not appropriate, the activity itself is avoided		• Strategic and Sub-catchment Reduction Plans are designed to progressively reduce overflows. The reduction in the frequency of WNOs will contribute to minimising adverse effects on river values. When wastewater overflows occur Wellington Water has very clear procedures set out in its WNO Response Plan to provide a managed and effective response to wastewater overflows including procedures to abate and remove risks to public health and the environment. This is consistent with (c) to remedy adverse effects where they cannot be minimised. If the need for offsetting is identified, offsetting initiatives could be developed and implemented through the Strategic and Sub-catchment Reduction Plans.

Table 3: Operative Regional Policy Statement for the Wellington Region 2013

Key Objectives / Policies	Relevance	Assessment
Coastal environment Objective 3 Habitats and features in the coastal environment that have significant indigenous biodiversity values are protected; and Habitats and features in the coastal environment that have recreational, cultural, historical or landscape values that are significant are protected from inappropriate subdivision, use and development. Objective 4 The natural character of the coastal environment is protected from the adverse effects of inappropriate subdivision, use and development. Objective 5 Areas of the coastal environment where natural character has been degraded are restored and rehabilitated. Objective 6 The quality of coastal waters is maintained or enhanced to a level that is suitable for the health and vitality of coastal and marine ecosystems. Objective 7 The integrity, functioning and resilience of physical and ecological processes in the coastal environment are protected from the adverse effects of inappropriate subdivision, use and development. Policy 35: Preserving the natural character of the coastal environment – consideration When considering an application for a resource consent, notice of requirement, or a change, variation or review of a district or regional plan, particular regard shall be given to preserving the natural character of the coastal environment by: a) minimising any adverse effects from point source and non-point source discharges, so that aquatic ecosystem health is safeguarded; b) protecting the values associated with estuaries and bays, beaches and dune systems, including the unique physical processes that occur	A number of network overflows discharge directly to the coastal environment and for most overflows the coastal environment is the indirect receiving environment.	The discharges occur at a variety of locations in the coastal environment. Given the nature of the overflows it is very difficult to determine the contribution, if any, a particular discharge makes to any adverse effects on the coastal environment. It is noted, however, that: • one of the WNO Objectives requires the consent holder to progressively reduce the frequency of WNOs • the Strategic and Sub-catchment Reduction Plans are designed to achieve this objective and the containment standard over the term of the consent; and • the Collaborative Committee is responsible for ensuring the WNO Objectives and the containment standard are achieved and for monitoring progress in achieving the objectives and the standard. The WNO Objectives, the requirements for the Strategic and Sub-catchment Reduction Plans and the Collaborative Committee have been included in the proposed consent conditions. Implementation of the consent in accordance with conditions will over the term of the consent assist in protecting indigenous biodiversity values, recreational, cultural, historical or landscape values of significance in the coastal environment. The Collaborative Committee through the development of the Strategic Reduction Plan will be responsible for determining the prioritised sub-catchments. It is anticipated that the sub-catchment most adversely affected by the WNOs

Key Objectives / Policies	Relevance	Assessment
within and between them from inappropriate subdivision, use and development, so that healthy ecosystems are maintained; c) maintaining or enhancing amenity – such as, open space and scenic values – and opportunities for recreation and the enjoyment of the coast by the public; d) minimising any significant adverse effects from use and enjoyment of the coast by the public; e) safeguarding the life supporting capacity of coastal and marine ecosystems; f) maintaining or enhancing biodiversity and the functioning of ecosystems; and g) protecting scientific and geological features from inappropriate subdivision, use and development <u>Policy 36: Managing effect on natural character in the coastal environment – consideration</u> When considering an application for a resource consent, notice of requirement or a change, variation or review of a district or regional plan, a determination shall be made as to whether an activity may affect natural character in the coastal environment, and in determining whether an activity is inappropriate particular regard shall be given to: a) the nature and intensity of the proposed activity including: i. the functional need or operational requirement to locate within the coastal environment ii. the opportunity to mitigate anticipated adverse effects of the activity b) the degree to which the natural character will be modified, damaged or destroyed including: i. the duration and frequency of any effect, and/or ii. the magnitude or scale of any effect; iii. the irreversibility of adverse effects on natural character values; iv. whether the activity will lead to cumulative adverse effects on the natural character of the site/area.		will be prioritised first for improvement through the development and implementation of the Sub-catchment Reduction Plans. The implementation of the Strategic and Sub-catchment Reduction Plans will assist in maintaining and enhancing water quality in the coastal environment. In relation to natural character (Policies 35 and 36). it is considered that as the WNOs are intermittent, temporary, of short duration and diluted, and taking into account the state of the receiving environment during these events, any adverse effects will not prevent the natural character of the receiving environments from being preserved.

Key Objectives / Policies	Relevance	Assessment
c) the resilience of the site or area to change; d) the opportunities to remedy or mitigate previous damage to the natural character; e) the existing land uses on the site. <u>Policy 37: Safeguarding life-supporting capacity of coastal ecosystems – consideration</u> When considering an application for a resource consent, notice of requirement, or a change, variation or review of a district or regional plan, particular regard shall be given to safeguarding the life-supporting capacity of coastal and marine ecosystems by maintaining or enhancing: a) any area within the intertidal or subtidal zone that contains unique, rare, distinctive or representative marine life or habitats; b) areas used by marine mammals as breeding, feeding or haul out sites; c) habitats in the coastal environment that are important during the vulnerable life stages of indigenous species; d) habitats, corridors and routes important for preserving the range, abundance, and diversity of indigenous and migratory species; e) any area that contain indigenous coastal ecosystems and habitats that are particularly vulnerable to modification – such as, estuaries, lagoons, coastal wetlands, dunelands, rocky reef systems and salt marshes; and f) the integrity, functioning and resilience of physical and ecological processes.		As discussed above, the implementation of the consent in accordance with proposed conditions will, over the term of the consent, assist in to safeguarding the life-supporting capacity of coastal and marine ecosystems. Based on the above assessments, it is considered the proposal is generally consistent with the objectives and policies of the RPS relating to the coastal environment.
Energy, Infrastructure and Waste <u>Objective 10</u> The social, economic, cultural and environmental, benefits of regionally significant infrastructure are recognised and protected. <u>Policy P39: Recognising the benefits from renewable energy and regionally significant infrastructure – consideration</u>	This objective and policy refer to regionally significant infrastructure which is defined in the RPS as including the local authority wastewater and stormwater networks, systems and	The wastewater network is designed to overflow during heavy rainfall events. These overflows take the pressure off other components of the network including those parts of the network on private property. Provision for these overflows assists in minimising the public's exposure to raw sewage overflow in locations that present greater public health risks.

Key Objectives / Policies	Relevance	Assessment
When considering an application for a resource consent, notice of requirement or a change, variation or review of a district or regional plan, particular regard shall be given to: (a) the social, economic, cultural and environmental benefits of energy generated from renewable energy resources and/or regionally significant infrastructure;	wastewater treatment plants	While it is not ideal to have wastewater network overflows, the social, economic, cultural and environmental effects of overflows within private property would be significantly greater. The benefits of this need to be taken into account in the consideration of these applications.
Freshwater <u>Objective 12</u> The quantity and quality of fresh water: (a) meet the range of uses and values for which water is required; (b) safeguard the life supporting capacity of water bodies; and (c) meet the reasonably foreseeable needs of future generations. <u>Policy 40: Maintaining and enhancing aquatic ecosystem health in water bodies – consideration</u> When considering an application for a resource consent particular regard shall be given to: (a) requiring that water quality, flows and water levels and aquatic habitats of surface water bodies are managed for the purpose of safeguarding aquatic ecosystem health; (c) managing water bodies and the water quality of coastal water for other purposes identified in regional plans. <u>Objective 13</u> The region's rivers, lakes and wetlands support healthy functioning ecosystems. <u>Policy 43: Protecting aquatic ecological function of water bodies – consideration</u> When considering an application for a resource consent, notice of requirement, or a change, variation or review of a district or regional plan, particular regard shall be given to: (a) maintaining or enhancing the functioning of ecosystems in the water body;	These objectives and policies relate to water quality of freshwater and healthy functioning ecosystems in rivers. Various wastewater network overflows discharge to freshwater and have the potential to effect water quality and ecosystem health. The Hutt River and Korokoro Stream are listed in the RPS as rivers with significant amenity and recreational values and with significant indigenous ecosystems.	The WNOs discharge either directly or indirectly into a number of freshwater receiving environments. Given the nature of the overflows it is very difficult to determine the contribution, if any, that a particular discharge makes to adverse effects on these freshwater receiving environments. It is noted however, that: • one of the WNO Objectives requires the consent holder to progressively reduce the frequency of WNOs • the Strategic and Sub-catchment Reduction Plans are designed to achieve this objective and the containment standard over the term of the consent; and • the Collaborative Committee is responsible for ensuring the WNO Objectives and the containment standard are achieved and for monitoring progress in achieving the objectives and the standard. The WNO Objectives, the requirements for the Strategic and Sub-catchment Reduction Plans and the Collaborative Committee have been included in the proposed consent conditions. Implementation of the consent in accordance with these conditions over the term of the consent will assist in protecting the quality of freshwater and significant indigenous ecosystems and habitats

Key Objectives / Policies	Relevance	Assessment
(b) maintaining or enhancing the ecological functions of riparian margins; (c) minimising the effect of the proposal on groundwater recharge areas that are connected to surface water bodies; (d) maintaining or enhancing the amenity and recreational values of rivers and lakes, including those with significant values listed in Table 15 of Appendix 1; (e) protecting the significant indigenous ecosystems and habitats with significant indigenous biodiversity values of rivers and lakes, including those listed in Table 16 of Appendix 1; (f) maintaining natural flow regimes required to support aquatic ecosystem health; (g) maintaining fish passage; (h) protecting and reinstating riparian habitat, in particular riparian habitat that is important for fish spawning;		and maintaining or enhancing the functioning of ecosystems and amenity and recreational values. Through the Strategic Reduction Plans the Collaborative Committee will be responsible for determining the prioritised sub-catchments. It is anticipated that sub-catchments identified as being the most effected by the WNOs will be prioritised first for the development and implementation of Sub-catchment Reduction Plans Based on the above assessments it is considered the proposal is generally consistent with the objectives and policies of the RPS relating to the freshwater.
Policy 64: Supporting a whole of catchment approach – non-regulatory Take a whole of catchment approach that recognises the inter-relationship between land and water, and support environmental enhancement initiatives to restore and enhance: (b) aquatic ecosystems and habitats; and (c) indigenous ecosystems and habitats.	Policy 64 promotes a whole of catchment approach which is what the proposal is seeking to achieve.	The application strongly aligns with Policy 64 as it seeks to set in place, through consent conditions, and the Strategic Management Plan a whole of catchment integrated approach to the management of wastewater network discharges in the Hutt Valley and Wainuiomata Catchments.
Resource Management with Tangata Whenua Objective 25 The concept of kaitiakitanga is integrated into the sustainable management of the Wellington region's natural and physical resources. Objective 26 Mauri is sustained, particularly in relation to coastal and fresh waters. Objective 27	The discharges have the potential to effect tangata whenua values and interests.	A cultural impact assessment has been prepared on behalf of Taranaki Whānui ki Te Upoko o Te Ika and Ngāti Toa. The CIA identifies that the network discharges have adverse effects on the values of significance to tangata whenua. The significance of these effects varies depending on the volume and frequency of specific discharges and the sensitivity of the receiving environment. The CIA identifies

Key Objectives / Policies	Relevance	Assessment
Mahinga kai and natural resources used for customary purposes, are maintained and enhanced, and these resources are healthy and accessible to tangata whenua. Objective 28 The cultural relationship of Māori with their ancestral lands, water, sites, wāhi tapu and other taonga is maintained. Policy 49: Recognising and providing for matters of significance to tangata whenua – consideration (a) the exercise of kaitiakitanga; (b) mauri, particularly in relation to fresh and coastal waters; (c) mahinga kai and areas of natural resources used for customary purposes; and (d) places, sites and areas with significant spiritual or cultural historic heritage value to tangata whenua.		specific discharges that have the most significant adverse effects on the values held by tangata whenua and recommends mitigation measures. These measures will be taken into account in the development of the Strategic and Sub-catchment Reduction Plans, which will be overseen by the Collaborative Committee. It is recognised that any discharge of fully treated, partially treated or untreated wastewater to natural streams and rivers goes against the cultural position for Māori, and adversely impacts the mauri of the waterbody. To this end Objective 26 cannot be fully met while there is a continued discharge of wastewater to these water bodies. However, the proposal seeks to reduce these discharges overtime and to do so in manner that recognises the relationship of Māori to these taonga and which provides the opportunity for tangata whenua to exercise kaitiakitanga. The consent application proposes to establish the Wastewater Network Collaborative Committee. The overall purpose of the Collaborative Committee is to provide strategic direction to the consent holder to achieve the WNO Objectives and the containment standards over the term of the consent. A key responsibility of the Collaborative Committee is to oversee the development and implementation of the Strategic and Sub-catchment Reduction Plans and to prioritise sub-catchments and improvements. The recommendations from the cultural impact assessment will be used to inform prioritised sub-catchments for the Strategic Reduction Plan.

Key Objectives / Policies	Relevance	Assessment
		Other functions of the WNCC include: • overseeing the preparation and implementation of the Mātauranga Māori Monitoring Plan. This Plan will be required to be aligned with the Regional Kaitiaki Monitoring Framework (Method M2 of the PNRP). • The option for investigation to achieve or contribute to achieving the Zero Overflow Aspirations. The WNO Objectives are key to the future management of the overflows as the consent conditions require consent holder to achieve the objectives over the term of the consent. They include objectives requiring: • Partnership with Mana Whenua for the oversight, planning and implementation of the resource consents for wastewater overflows, and • Priority to the reduction of wet weather overflows in catchments where the overflows are having an adverse effect on Mana Whenua sites of significance The Collaborative Committee has been designed to facilitate opportunities for tangata whenua to exercise kaitiakitanga and to recognise the role of tangata whenua as kaitiaki. Having a Mātauranga Māori expert support the consent holder in in preparing the Strategic and Sub-catchment Reduction Plans and their components will facilitate incorporating mātauranga Māori into the future management of the wastewater overflows. Prioritising the reduction of wet weather overflows in sub-catchments where the overflows

Key Objectives / Policies	Relevance	Assessment
		are having an adverse effect on Mana Whenua sites of significance (as directed by the WNO Objectives) should facilitate the protection and management of areas or sites of significance or special value to Māori. Based on the above assessment it is anticipated that the wastewater network objectives, and the Collaborative Committee and Strategic and Sub-catchment Reduction Plans required through the proposed consent conditions will assist in meeting the objectives and policies of the RPS relating to tangata whenua. It is acknowledged however that this needs to be determined by Mana Whenua.
Indigenous ecosystems Objective 16 Indigenous ecosystems and habitats with significant biodiversity values are maintained and restored to a healthy functioning state. Policy 47: Managing effects on indigenous ecosystems and habitats with significant indigenous biodiversity values – consideration When considering an application for a resource consent, notice of requirement, or a change, variation or review of a district or regional plan, a determination shall be made as to whether an activity may affect indigenous ecosystems and habitats with significant indigenous biodiversity values, and in determining whether the proposed activity is inappropriate particular regard shall be given to: (a) maintaining connections within, or corridors between, habitats of indigenous flora and fauna, and/or enhancing the connectivity between fragmented indigenous habitats; (b) providing adequate buffering around areas of significant indigenous ecosystems and habitats from other land uses; (c) managing wetlands for the purpose of aquatic ecosystem health; (d) avoiding the cumulative adverse effects of the incremental loss of indigenous ecosystems and habitats;		The purpose of the Strategic and Sub-catchment Reduction Plans is to progressively reduce the frequency of the discharges overtime. Sub-catchments will be prioritised by the Collaborative Committee through the Strategic Reduction Plan. While these processes on their own will not restore the waterbodies to healthy functioning state (where this does not currently exist), they will contribute towards Objective 16. The Strategic and Sub-catchment Reduction Plans are designed to minimise effects by reducing the frequency of overflows. The assessment of effects at sub-catchment level undertaken in the Part 2 Report is conservative and takes the highest adverse effect of individual discharges (direct and indirect) as being representative of the effects on the sub-catchment. In terms of Policy 47 clause (c), the WNOs covered by this application do not discharge into any Outstanding Natural Wetlands.

Key Objectives / Policies	Relevance	Assessment
(e) providing seasonal or core habitat for indigenous species; (f) protecting the life supporting capacity of indigenous ecosystems and habitats; (g) remedying or mitigating adverse effects on the indigenous biodiversity values where avoiding adverse effects is not practicably achievable; and (h) the need for a precautionary approach when assessing the potential for adverse effects on indigenous ecosystems and habitats.		The implementation of the consent in accordance with proposed consent conditions will over the term of the consent assist in protecting the life supporting capacity of indigenous ecosystems and habitats and mitigating adverse effects on the indigenous biodiversity values.

Table 4: Proposed Change 1 to the Regional Policy Statement for the Wellington Region[2]

Key Objectives / Policies	Relevance	Assessment
Overarching objective **Objective A** Integrated management of the region's natural and built environments is guided by Te Ao Māori and: (a) incorporates mātauranga Māori; and (b) recognises ki uta ki tai – the holistic nature and interconnectedness of all parts of the natural environment; and (c) protects and enhances mana whenua / tangata whenua values, in particular mahinga kai, and the life-supporting capacity of ecosystems; and (d) recognises the dependence of humans on a healthy natural environment; and (e) recognises the role of both natural and physical resources in providing for the characteristics and qualities of well-functioning urban environments; and (f) responds effectively to the current and future pressures of climate change, population growth and development. **Policy IM.1: Integrated management – ki uta ki tai - consideration** When considering an application for a resource consent, notice of requirement, or a change, variation or review of a regional or district plan particular regard shall be given to: (a) partnering with mana whenua / tangata whenua to provide for mana whenua / tangata whenua involvement in resource management and decision making; and (b) recognising the interconnectedness between air, freshwater, land, coastal marine areas, ecosystems and all living things – ki uta ki tai; and	This new objective and policy introduced by Plan Change 1 set an overarching direction for all resource management decisions in the region, and place particular emphasis on the need to partner with mana whenua and take a holistic and integrated approach in resource management.	The global approach of this application seeks to ensure that the effects of all wet weather overflows within the Hutt and Wainuiomata catchments are managed in a holistic and integrated manner. The proposed approach to prioritising and managing the wet weather overflows by the Collaborative Committee provides the opportunity for Te Ao Māori to guide decision making, for mātauranga Māori to be incorporated and for mana whenua / tangata whenua values to be protected and enhanced over time. The WNO Objectives are key to the future management of the overflows as the consent conditions require consent holder to achieve the objectives over the term of the consent. They include objectives requiring: • A partnership with Mana Whenua for the oversight, planning and implementation of the resource consents for wastewater overflows, and • Priority for the reduction of wet weather overflows in catchments where the overflows are having an adverse effect on Mana Whenua sites of significance. Having a Mātauranga Māori expert support the consent holder in in preparing the Strategic and Sub-catchment Reduction Plans will facilitate incorporating mātauranga Māori into the future management of the wastewater overflows.

[2] In column 1, 'Key Objectives/Policies', where the content of a provision is underlined this indicates text added by Plan Change 1. Where the content of a provision is ~~struckthrough~~ this indicates text deleted by Plan Change 1.

Key Objectives / Policies	Relevance	Assessment
(c) recognising the interrelationship between natural resources and the built environments; and (d) making decisions based on the best available information, improvements in technology and science, and mātauranga Māori; and (e) upholding Māori data sovereignty; and (f) requiring Māori data and mātauranga Māori to be interpreted within Te Ao Māori; and (g) recognising that the impacts of activities may extend beyond immediate and directly adjacent area, and beyond organisational or administrative boundaries		The proposed prioritisation of sub-catchments catchments and the setting of the containment standard through the Strategic Reduction Plan, takes into account receiving environment sensitivity and adverse effects on the sub-catchments, and recognises that these receiving environments and sub-catchments are significant elements of well-functioning urban environments. The modelling which is central to the proposed prioritisation and management approach is informed by projections of climate change, population growth and development. For these reasons it is considered that the application is consistent with Objective A and Policy IM.1.
Climate Change **Objective CC.1** By 2050, the Wellington Region is a low-emission and climate-resilient region, where climate change mitigation and adaptation are an integral part of: (a) sustainable air, land, freshwater, and coastal management, (b) well-functioning urban environments and rural areas, and (c) well-planned infrastructure. **Objective CC.6** Resource management and adaptation planning increase the resilience of communities and the natural environment to the short, medium, and long-term effects of climate change. **Objective CC.7** People and businesses understand what climate change means for their future and are actively involved in planning and implementing appropriate mitigation and adaptation responses.	The new climate change provisions introduced by Plan Change 1 address the effects of human activities on climate change as well as the effects of climate change on human activities. It is these latter provisions which are of particular relevance to this application.	Modelling of wastewater flows is a key tool in the assessment of effects included in the application and will be critical to the development of containment standards, the Strategic and Sub-catchment Reduction Plans and to determining compliance under this consent. The model assumptions take into account the predicted impact of climate change on rainfall and flow within the wastewater network. This will ensure that: • adaption to climate change is integral to the improvements made in accordance with Strategic and Sub-catchment Reduction Plans • measures developed under the Strategic and Sub-catchment Reduction Plans are designed to withstand predicted climate change induced increases in rainfall and wastewater flow

Key Objectives / Policies	Relevance	Assessment
Policy CC.14 When considering an application for a resource consent, notice of requirement, or a change, variation or review of a district or regional plan, provide for actions and initiatives, particularly the use of nature-based solutions, that contribute to climate-resilient urban areas, including: (a) … (f) buildings and infrastructure that are able to withstand the predicted future temperatures, intensity and duration of rainfall and wind.		• the potential for climate change to increase the adverse effect of wet weather overflows on the environment is addressed. It is therefore considered that the proposal is consistent with the climate change provisions of Plan Change 1.
Freshwater **Objective 12** Natural and physical resources of the region are managed in a way that prioritises: (a) first, the health and well-being of water bodies and freshwater ecosystems (b) second, the health needs of people (such as drinking water) (c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future; and Te Mana o te Wai encompasses six principles relating to the roles of tangata whenua and other New Zealanders in the management of freshwater, and these principles inform this RPS and its implementation. The six principles are: (a) Mana whakahaere: the power, authority, and obligations of tangata whenua to make decisions that maintain, protect, and sustain the health and well-being of, and their relationship with, freshwater (b) Kaitiakitanga: the obligation of tangata whenua to preserve, restore, enhance, and sustainably use freshwater for the benefit of present and future generations	Plan Change 1 deletes existing Objective 12 and replaces this with a new objective that carries forward the Te Mana o Te Wai objective and principles from the NPSFM. Plan Change 1 also incorporates Te Mana o te Wai expressions from Rangitāne o Wairarapa and Kahungunu ki Wairarapa. It has been assumed that these expressions do not relate to this application as it does not cover wastewater networks in the Wairarapa. Plan change 1 amends Policy 40 to integrate Te Mana o Te Wai, and to	A key aspect of the proposal is the Collaborative Committee responsibilities in developing the containment standard through the Strategic Reduction Plan and ensuring it is achieved through the development and implementation of the Sub-catchment Reduction Plans. This Committee will be a partnership between the consent holder and mana whenua and has been designed to enable the Te Mana o te Wai principles relating to mana whakahaere, kaitiakitanga and manaakitanga to inform the future management of the wastewater network wet weather overflows. The Collaborative Committee's responsibilities are intended to ensure that the effects of wet weather overflows are managed in a way that gives greater priority to the health and well-being of water bodies. This includes in decision making on setting of containment standards and identifying priority sub-catchments for the development of Sub-catchment Reduction Plans. These same decisions will also give priority to the health needs of people and how these might be impacted by wet weather overflows.

Key Objectives / Policies	Relevance	Assessment
(c) Manaakitanga: the process by which tangata whenua show respect, generosity, and care for freshwater and for others (d) Governance: the responsibility of those with authority for making decisions about freshwater to do so in a way that prioritises the health and well-being of freshwater now and into the future (e) Stewardship: the obligation of all New Zealanders to manage freshwater in a way that ensures it sustains present and future generations, and (f) Care and respect: the responsibility of all New Zealanders to care for freshwater in providing for the health of the nation. And the Statements of Kahungunu ki Wairarapa and Rangitāne o Wairarapa ~~The quantity and quality of fresh water:~~ ~~(a) meet the range of uses and values for which water is required;~~ ~~(b) safeguard the life supporting capacity of water bodies; and~~ ~~(c) meet the reasonably foreseeable needs of future generations.~~ **Policy 40: ~~Maintaining~~ Protecting and enhancing the health and well-being of water bodies and freshwater ecosystems ~~aquatic ecosystem health in water bodies~~ – consideration** When considering an application for a regional resource consent, particular regard shall be given to: (a) ~~requiring~~ that water quality, flows and water levels and aquatic habitats of surface water bodies are managed in a way that gives effect to Te Mana o Te Wai and protects and enhances the health and well-being of waterbodies and the health and wellbeing of freshwater ecosystems ~~for the purpose of safeguarding aquatic ecosystem health~~; (b) that, ~~requiring~~ as a minimum, water quality in the coastal marine area is ~~to be~~ managed in a way that protects and enhances the health and well-being of waterbodies and the health and wellbeing of marine ecosystems.~~: for the purpose of maintaining or enhancing aquatic ecosystem health; and~~	add in clauses from Policy 43 of the Operative RPS. Plan Change 1 proposes that Policy 43 is deleted.	The WNOs discharge either directly or indirectly into a number of freshwater receiving environments. Given the nature of the overflows it is very difficult to determine the contribution, if any, that a particular discharge makes to any adverse effects on these freshwater receiving environments. It is noted however, that: • one of the WNO Objectives requires the consent holder to progressively reduce the frequency of WNOs • the Strategic and Sub-catchment Reduction Plans are designed to achieve this objective and the containment standard over the term of the consent; and • the Collaborative Committee is responsible for ensuring the WNO Objectives and the containment standard are achieved and for monitoring progress in achieving the objectives and the standard. The WNO Objectives and the requirements for the Strategic and Sub-catchment Reduction Plans and the Collaborative Committee have been included in the proposed consent conditions. Implementation of the consent in accordance with these conditions, will over the term of the consent, assist in protecting the quality of freshwater and significant indigenous ecosystems and habitats and maintaining or enhancing the functioning of ecosystems and amenity and recreational values. The Collaborative Committee will be responsible through the Strategic Reduction Plan for determining the prioritised of sub-catchments for improvement. It is anticipated that the sub-catchments most adversely affected by the WNOs

Key Objectives / Policies	Relevance	Assessment
~~(c) managing water bodies and the water quality of coastal water for other purposes identified in regional plans.~~ (c) providing for mana whenua / tangata whenua values, including mahinga kai; (d) maintaining or enhancing the functioning of ecosystems in the water body; (e) maintaining or enhancing the ecological functions of riparian margins; (f) minimising the effect of the proposal on groundwater recharge areas that are connected to surface water bodies; (g) maintaining or enhancing the amenity and recreational values of rivers and lakes, including those with significant values listed in Table 15 of Appendix 1; (h) protecting the significant indigenous ecosystems and habitats with significant indigenous biodiversity values of rivers and lakes, including those listed in Table 16 of Appendix 1; (i) maintaining natural flow regimes required to support aquatic ecosystem health; (j) maintaining or enhancing space for rivers to undertake their natural processes: (k) maintaining fish passage; (l) protecting and reinstating riparian habitat, in particular riparian habitat that is important for fish spawning; (m) restricting stock access to estuaries rivers, lakes and wetlands; and (n) avoiding the removal or destruction of indigenous wetland plants in wetlands.		will be the initial focus of the Strategic and Sub-catchment Reduction Plans. Based on the above assessments it is considered the proposal is generally consistent with the objectives and policies of the RPS relating to the freshwater.
Indigenous Ecosystems **Objective 16** Indigenous ecosystems and habitats with significant ecosystem functions and services and/or biodiversity values are ~~maintained~~ protected, enhanced, and restored to a healthy functioning state.	Plan Change 1 proposes changes to existing RPS objectives and policies relating to indigenous ecosystems. It also introduces new objectives and policies	The purpose of the proposed Strategic and Sub-catchment Reduction Plans is to progressively reduce the frequency of the WNOs overtime. Sub-catchments will be prioritised through the Strategic Reduction Plan by the Collaborative Committee taking into account the sub-catchments most significantly affected, social, public health,

Key Objectives / Policies	Relevance	Assessment
Objective 16A The region's indigenous ecosystems are maintained, enhanced, and restored to a healthy functioning state, improving their resilience to increasing environmental pressures, particularly climate change, and giving effect to Te Rito o te Harakeke[3]. **Objective 16B** Mana whenua / tangata whenua values relating to indigenous biodiversity, particularly taonga species, and the important relationship between indigenous ecosystem health and well-being, are given effect to in decision-making, and mana whenua / tangata whenua are supported to exercise their kaitiakitanga for indigenous biodiversity. **Objective 16C** Landowner and community values in relation to indigenous biodiversity are recognised and provided for and their roles as stewards are supported. **Policy 47** When considering an application for a resource consent, notice of requirement, or a change, variation or review of a district or regional plan, a determination shall be made as to whether an activity may	which provide direction with regard to: • all indigenous ecosystems (rather than being limited to those indigenous ecosystems with significance values) • mana whenua / tangata whenua values relating to indigenous biodiversity • landowner and community values relating to indigenous biodiversity.	economic, cultural and environmental effects / risks. While these processes on their own will not restore the waterbodies to healthy functioning state (where this does not currently exist), it will contribute towards Objectives 16 and 16A. Wellington Water is working to ensure that tangata whenua are active partners in resolving issues associated with the management of the wastewater network. Critical to this process is the Collaborative Committee which will comprise an equal number of members from Mana Whenua and the consent holder. The Collaborative Committee will be key in ensuring the outcomes sought by Objective 16B are achieved over the term of the consent. The Strategic and Sub-catchment Reduction Plans are designed to minimise effects by reducing the frequency of overflows. The environmental effects assessments form an important part of the process for determining the containment standard and the prioritised sub-catchments. The assessment of effects at sub-catchment level undertaken in the Part 2 Report is conservative and takes the highest adverse effect of individual

[3] Te Rito o te Harakeke is a concept that refers to the need to maintain the integrity of indigenous biodiversity. It recognises the intrinsic value and mauri of indigenous biodiversity as well as people's connections and relationships with it. It recognises that our health and wellbeing are dependent on the health and wellbeing of indigenous biodiversity and that in return we have a responsibility to care for it. It acknowledges the web of interconnectedness between indigenous species, ecosystems, the wider environment, and the community. Te Rito o te Harakeke comprises six essential elements to guide tangata whenua and local authorities in managing indigenous biodiversity and developing objectives, policies, and methods for giving effect to Te Rito o te Harakeke:
- the intrinsic value and mauri of indigenous biodiversity:
- the bond between people and indigenous biodiversity through whakapapa (familial) relationships and mutual interdependence:
- the responsibility of care that tangata whenua have as kaitiaki, and that other New Zealanders have as stewards, of indigenous biodiversity:
- the connectivity between indigenous biodiversity and the wider environment:
- the incorporation of te ao Māori and mātauranga Māori:
- the requirement to partner with tangata whenua.

Key Objectives / Policies	Relevance	Assessment
affect indigenous ecosystems and habitats with significant indigenous biodiversity values, and in determining whether the proposed activity is inappropriate particular regard shall be given to: (a) maintaining connections within, or corridors between, habitats of indigenous flora and fauna and/or enhancing the connectivity between fragmented indigenous habitats; (b) providing adequate buffering around areas of significant indigenous ecosystems and habitats from other land uses; (c) managing wetlands for the purpose of aquatic ecosystem health, recognising the wider benefits, such as for indigenous biodiversity, water quality and holding water in the landscape; (d) avoiding the cumulative adverse effects of the incremental loss of indigenous ecosystems and habitats; (e) providing seasonal or core habitat for indigenous species; (f) protecting the life supporting capacity of indigenous ecosystems and habitats; (g) ~~remedying or mitigating~~ minimising or remedying adverse effects on the indigenous biodiversity values where avoiding adverse effects is not practicably achievable; and (h) the need for a precautionary approach when assessing the potential for adverse effects on indigenous ecosystems and habitats; (i) the limits to, and expected outcomes from biodiversity offsetting and biodiversity compensation set out in Policy 24. **Policy IE.2: Giving effect to mana whenua / tangata whenua roles and values when managing indigenous biodiversity - consideration** When considering an application for a resource consent, notice of requirement, or a plan change, variation or review of a district plan for subdivision, use or development, particular regard shall be given to enabling mana whenua / tangata whenua to exercise their role as kaitiaki, including, but not restricted to:		discharges (direct and indirect) as being representative of the effects on the sub-catchment. In terms of Policy 47clause (c), the WNOs covered by this application do not discharge into any Outstanding Natural Wetlands. The implementation of the consent in accordance with proposed consent conditions will over the term of the consent assist in protecting the life supporting capacity of indigenous ecosystems and habitats and mitigating adverse effects on the indigenous biodiversity values. As discussed above, the Collaborative Committee will be key to enabling mana whenua / tangata whenua to exercise their role as kaitiaki in the implementation of this resource consent. One of the Committee's responsibilities is to ensure the WNO Objectives are met. One of the objectives is the prioritisation of the reduction of wet weather overflows where the overflows are having an adverse effect on Mana Whenua sites of significance.

Key Objectives / Policies	Relevance	Assessment
(a) providing for mana whenua / tangata whenua values associated with indigenous biodiversity, including giving local effect to Te Rito o te Harakeke, (b) incorporating the use of mātauranga Māori in the management and monitoring of indigenous biodiversity; and (c) supporting mana whenua / tangata whenua to access and exercise sustainable customary use of indigenous biodiversity, including for mahinga kai and taonga, in accordance with tikanga.		
Policy UD.2: Enable Māori cultural and traditional norms – consideration When considering an application for a resource consent, notice of requirement, or a plan change of a district plan for use or development, particular regard shall be given the ability to enable Māori to express their culture and traditions in land use and development, by as a minimum providing for mana whenua / tangata whenua and their relationship with their culture, land, water, sites, wāhi tapu and other taonga.		A key aspect of the proposal is the Collaborative Committee that will develop the containment standard for wet weather overflows through the Strategic Reduction Plan and the Sub-catchment Reduction Plans that will set out the measures that are proposed to meet the containment standard. The Collaborative Committee will be a partnership between the consent holder and mana whenua and will enable mana whenua values to be provided for within decision making under the consent.

Table 5: Proposed Natural Resources Plan (Final Appeals Version 2022)

Key Objectives / Policies	Relevance / Discussion	Assessment
Wastewater discharges Objective O39 Discharges of wastewater to land are promoted over discharges to fresh water and coastal water. Objective O40 Discharges of wastewater to fresh water are progressively reduced. Policy P82: Avoiding inappropriate discharges to water Discharges to fresh and coastal water of: (a) untreated wastewater, except as a result of heavy rainfall event overflows, and (b)… shall be avoided. Policy P92: Minimising and improving wastewater discharges The adverse effects of existing discharges of wastewater to fresh water and coastal water shall be minimised, and: a) … b) in the case of existing discharges to fresh water or coastal water from wastewater networks during or following rainfall events, the frequency and/or volume of discharges shall be progressively reduced. Policy P91: Mana whenua values and wastewater discharges Mana whenua values and interests shall be reflected in the management of wastewater discharges to fresh and coastal water, including adverse effects on Māori customary use, Ngā Taonga Nui a Kiwa, outstanding water bodies and mahinga kai.	These objectives and policies specifically relate to wastewater discharges to fresh and coastal waters. Given the specificity of these objectives and policies significant weight should be given to them in assessing the WNO application.	O39 seeks to promote the discharge of wastewater to land over the discharge to water. The discharges for which consent is sought are dispersed throughout the Hutt Valley and Wainuiomata, including several within areas of relatively intensive urban development. If the network overflows were discharged to land, then the adverse effects could be greater. This is because it is highly likely that the discharges would be to areas where there could be significant uncontrolled public exposure, and therefore they could create significant public health and amenity effects. Given these potential effects, in the case of network discharges, the discharge to water better meets the purpose of the RMA than the discharge to land. It should be noted that a number of the WNOs particularly uncontrolled WNOs discharge to land prior to entering water or the stormwater network. O40 and P92 are key to this application. The WNO Objective which requires that "the frequency of wet weather overflow events is progressively reduced" is based on O40 and P92. The application has been designed to achieve the outcomes sought by O40 and P92. P82 recognises that during heavy rainfall events wastewater overflows occur, and these cannot be avoided. In terms of P91, Mana Whenua values and interests shall be reflected in the management of the WNOs through membership of the Collaborative Committee, Mātauranga Māori expert support for the consent holder, cultural impact assessments, and Mātauranga Māori monitoring.

Key Objectives / Policies	Relevance / Discussion	Assessment
<u>Policy P93: Quality of existing wastewater discharges to rivers</u> The quality of existing wastewater discharges to rivers shall be assessed in relation to the following water quality guidelines in the receiving water after the zone of reasonable mixing: (a) when measured below the discharge point compared to above the discharge point: (i) a decrease in the Quantitative Macroinvertebrate Community Index of no more than 20%, and (ii) a decrease in water clarity of no more than: 1. 20% in River class 1 and in any river identified as having high macroinvertebrate community health in Schedule F1 (rivers/lakes), or 2. 30% in any other river, and (iii) a change in temperature of no more than: 1. 2˚C in any river identified as having high macroinvertebrate community health in Schedule F1 (rivers/lakes), or 2. 3˚C in any other river, and (b) consider the extent to which the discharge causes the following to be exceeded: (i) the 7-day mean minimum dissolved oxygen concentration of no more than 5 mg/L, and (ii) the daily minimum dissolved oxygen concentration of no lower than 4mg/L, and (iii) soluble carbonaceous biochemical oxygen demand (BOD5) of no more than 2mg/L at flows less than flood flows, and (iv) particulate organic matter (POM) no more than 5 mg/L at flows less than median, and (v) nitrate toxicity of no more than:		While it is considered that P93 is most applicable to a continuous point-source discharge to a river where an upstream reference site, downstream impact site and intermediate mixing zone can be defined, and a routine monitoring programme can be implemented. The effects assessment in the Part 2 Report has attempt to apply P93 to the assessment of wet weather overflows and this assessment is repeated below. (a)(i) Mechanisms by which WNO discharges might cause a decrease in QMCI scores include nutrient enrichment, dissolved oxygen depletion, and toxicity due to elevated ammonia or nitrate. While nutrient enrichment and oxygen depletion are unlikely in the context of an intermittent short duration WNO discharge occurring during a rainfall event, ammonia/nitrate toxicity is a possible outcome, particularly in the case of frequent medium to high volume discharges to a small or medium sized watercourse. In this context WNO discharges to Black Creek and Waiwhetu Stream very likely contribute to the poor macroinvertebrate community health in those watercourses, potentially resulting in non-compliance with the QMCI criteria. (a)(ii) WNO discharges contain elevated levels of suspended solids. Medium or high-volume discharges have the potential to reduce water clarity in small or medium waterways by more than 30% for the duration of the discharge. WNOs to Black Creek and Waiwhetu Stream very likely do not achieve the water clarity guideline from time to time. (a)(iii) WNO discharges consist partly or mostly of stormwater inflows to the wastewater network and are normally at, or close to, the ambient temperature of receiving waters. The risk of WNO discharges causing more than a 3° C temperature change is low. (b)(i) and (b)(ii) Oxygen Depletion is unlikely in the context of an intermittent short duration WNO discharge occurring during a rainfall event. (b)(iii) A WNO discharge to a small or medium sized watercourse has the potential to cause a soluble carbonaceous BOD5

Key Objectives / Policies	Relevance / Discussion	Assessment
1. 1mg/L (annual median) and 1.5mg/L (annual 95th percentile from monthly samples) in outstanding waterbodies (Schedule A1), River class 1 and in any river identified as having high macroinvertebrate community health in Schedule F1 (rivers/lakes), or 2. 2.4mg/L (annual median) and 3.5mg/L (annual 95th percentile from monthly samples) in any other river, and (vi) ammonia toxicity (at pH 8 and 20˚C) of no more than: 1. 0.03mg/L (annual median) and 0.05mg/L (annual maximum from monthly samples) in outstanding waterbodies (Schedule A1), River class 1 and in any river identified as having high macroinvertebrate community health in Schedule F1 (rivers/lakes), or 2. 0.24mg/L (annual median) and 0.4mg/L (annual maximum from monthly samples) in any other river. <u>Policy P94: Avoiding new wastewater discharges to fresh water</u> New wastewater discharges to fresh water are avoided.		concentration greater than 2mg/L in receiving waters at flows less than flood flows, but such events are intermittent and of short duration. (b)(iv) A WNO discharge to a small or medium sized watercourse has the potential to cause a POM concentration greater than 5 mg/L in receiving waters, but stream flows are unlikely to be less than median at such times. (b)(v) A high frequency of WNO discharges to a small or medium sized watercourse has the potential to cause an exceedance of the annual median and/or 95th percentile nitrate-N values, based on monthly sampling. Conversely, a low frequency of discharge (<2 per year) is unlikely to cause non-compliance with (b)(v) criteria. (b)(vi) A high frequency of WNO discharges to a small or medium sized watercourse has the potential to cause an exceedance of the annual median and/or 95th percentile ammonia values, based on monthly sampling. Conversely, a low frequency of discharge (<2 per year) is unlikely to cause non-compliance. The above assessment identifies that the effects of the WNOs on Black Creek and Waiwhetu Stream as is not fully consistent with the guidelines set out in P93. It is noted however that the application through the Strategic and Sub-catchment Reduction Plans and the Collaborative Committee is designed so that sub-catchments most adversely affected by the WNOs are prioritised first for improvement. In terms of P94 consent has only been sought for existing wet weather WNOs, no new WNOs have been included in the application.
Discharges <u>Policy P66: Minimising effects of discharges to water or land</u> Discharges of contaminants to water or land will be minimised through the following hierarchy:	These objectives and policies apply to all types of discharges which include WNOs.	P66 seeks to minimise the discharge of contaminants through a 'hierarchy' of avoiding the production of the contaminant, reducing the amount of the contaminant, minimising the volume or amount of the discharge and promoting the discharge to land. Given that the network has been designed for over 100 years to overflow when capacity is exceeded, the overflows cannot

Key Objectives / Policies	Relevance / Discussion	Assessment
a) avoiding the production of the contaminant b) reducing the amount of contaminants, including by reusing, recovering or recycling contaminants c) minimising the volume or amount of the discharge d) discharging to land is promoted over discharging direct to water, including using land-based treatment, constructed wetlands or other systems to treat contaminants prior to discharge. <u>Policy P67: Human drinking water supplies</u> The adverse effects from discharges to land and water on the quality of community drinking water supplies and group drinking water supplies shall be avoided to the extent necessary to implement the necessary to implement regulations for human drinking water. The drinking water supply operator will be consulted with as appropriate, taking into consideration emerging contaminants and industry best practice. <u>Policy P68: Discharges to land</u> The discharge of contaminants to land shall be managed to: (e) avoid significant adverse effects on public health and amenity, and (f) not result in a discharge to water that causes more than a minor adverse effects, and (g) avoid, remedy or mitigate adverse effects on mana whenua values when considering applications for discharges to land which may adversely affect statutory acknowledgement areas, sites of significance, or Heritage New Zealand Pouhere Taonga sites, identified in this Plan, any relevant district plan, or in a planning document recognised by an iwi authority and lodged with a local authority. <u>Policy P69: Promoting discharges to land</u>		currently be avoided at all locations. However, in other respects Wellington Water's management of the network discharges is consistent with this policy. Wellington Water, HCC and UHCC seek to reduce the commercial and industrial inputs from food premises and manufacturing facilities under Trade Waste Bylaw. For domestic sources, Wellington Water undertakes education campaigns through various channels to remind public to not send certain contaminants into the wastewater system (for example wet wipes, nappies and other non-biodegradable material), Wellington Water seeks to reduce the frequency and / or volume of these discharges through the Inflow Survey programme for the Hutt Valley and Wainuiomata which specifically helps to reduce peak wastewater flows in the network and therefore to the WWTP. This includes flow monitoring at several locations in the wastewater network to identify where the highest flows are coming from with respect to rainfall in order to prioritise inspections and remedial work. It has led to renewal programmes in Naenae and Wainuiomata being prioritised within existing investment structures. The Strategic and Sub-catchment Reduction Plans are designed to progressively reduce the frequency of the discharges. As already noted, it is not considered appropriate to apply the overflows from the wastewater network to land. In terms of P67, the assessment of effects has determined that the intermittent occurrence of WNOs to Te Awakairangi has negligible effect on the quality of groundwater within the Waiwhetū Aquifer and does not compromise the ability of Wellington Water to provide safe drinking water to its customers. It is also noted that since 2017 there has been an increase in the level of treatment at the Waterloo Water Treatment Plant which includes UV treatment and chlorination. This ensures that safe drinking water continues to be provided to Lower Hutt customers and ensures compliance with the Drinking Water Standards NZ.

Key Objectives / Policies	Relevance / Discussion	Assessment
The discharge of contaminants to land is promoted over direct discharges to water, particularly where there are adverse effects on: a) aquatic ecosystem health and mahinga kai, or b) contact recreation and Māori customary use.		In terms of P68, consent is being sought for WNOs that discharge to land before entering water. Clause (e) requires that significant adverse effects on public health and amenity are avoided, and clause (f) requires that discharges to land that enter water do not cause causes more than minor adverse effects. The COP discharges that have been identified as having high / significant adverse effects discharge directly to freshwater. Any COPs that discharge to land before entering water are assessed as having a low to minor effect. The WNO Response Plan sets out reporting and notification procedures for COP discharges and for uncontrolled overflows. which are designed to ensure agencies such as Regional Public Health, GWRC and Mana Whenua, and the general public, are notified of WNOs. These requirements are also set out in the proposed consent conditions. Clause (g) is not applicable to this application as existing wastewater discharges resulting from wet weather overflows from the wastewater network to land where the discharge does not enter water is a permitted activity. This is discussed in section 1 of the Part 1 Report. In terms of P69, as discussed above, if the network overflows were discharged to land, then the adverse effects would be greater. For the reasons set out in the above assessment it is considered that the proposal is not contrary to the objectives and policies relating to discharges.
Beneficial use and development Objective O9 The social, economic, cultural and environmental benefits of regionally significant infrastructure, renewable energy generation activities and the utilisation of mineral resources are recognised. Policy P6: Uses of land and water	Regionally Significant Infrastructure is a defined term in the pNRP and includes the local authority wastewater and stormwater networks and systems, including treatment plants and	The overflow discharges are part of the operation of the wastewater network, which is 'regionally significant infrastructure'. The benefit of the wastewater network is that is conveys wastewater away from sensitive areas, such as residential and commercial properties, and thereby significantly reduces public health risks. The wastewater network does however have a physical conveyance capacity and is designed to overflow primarily to

Key Objectives / Policies	Relevance / Discussion	Assessment
The cultural, social and economic benefits of using land and water for: (a) treatment, dilution and disposal of wastewater and stormwater, shall be recognised <u>Policy P11: Benefits of regionally significant infrastructure and renewable electricity generation facilities</u> When considering proposals that relate to the provision of regionally significant infrastructure, or renewable energy generation activities, particular regard will be given to the benefits of those activities. <u>Policy P13: Providing for Regionally Significant Infrastructure and renewable electricity generation activities</u> The use, development, operation, maintenance, and upgrade of Regionally Significant Infrastructure and renewable energy generation activities are provided for, in appropriate places and ways. This includes by having particular regard to: (a) the strategic integration of infrastructure and land use, and (b) the location of existing infrastructure and structures, and (d) the functional need and operational requirements associated with developing, operating, maintaining and upgrading Regionally Significant Infrastructure and renewable energy generation activities.	storage and discharge facilities	water bodies if flows exceed this capacity in heavy rainfall events. These overflows take the pressure off other parts of the network and reduce risk of discharges from other locations, including those on private property. Policy 6 recognises that there are benefits in using land and water for the dilution and disposal of wastewater. There is a functional need for the wastewater overflows to discharge to water bodies. As set out above the wastewater network is purposely designed with relief points that during heavy rainfall events and other emergencies discharge to water bodies. The beneficial use and development objectives and policies support the provision of Regionally Significant Infrastructure which includes wastewater networks and discharge facilities. Consequently, it is considered that the proposal is consistent with these objectives and policies.
Recreation values <u>Objective O7</u> The recreational values of the coastal marine area, rivers and lakes and their margins and natural wetlands are maintained and where appropriate for recreational purposes, is enhanced.	The Hutt and Wainuiomata Rivers are listed in Schedule H1: Regionally significant primary contact recreation water bodies and Schedule	The public health assessment in the AEE takes into account effects on recreation and food gathering. The AEE identifies that the potential adverse public health effects of the discharges range depending on the receiving environment from less than minor up to significant.

Key Objectives / Policies	Relevance / Discussion	Assessment
Policy P9: Contact recreation and Māori customary use Use and development shall avoid, remedy or mitigate any adverse effects on contact recreation and Māori customary use in fresh and coastal water, including by: (a) providing water quality and, in rivers, flows suitable for contact recreation and Māori customary use, and (b) managing activities to maintain or enhance contact recreation values in the beds of lakes and rivers, including by retaining existing swimming holes and maintaining access to existing contact recreation locations, and (c) encouraging improved access to suitable swimming and surfing locations, and (d) providing for the passive recreation and amenity values of freshwater bodies and the coastal marine area. Policy P140: Recreational values The adverse effects of use and development in the coastal marine area on recreational values shall be managed by providing for a diverse range of recreational opportunities while avoiding conflicts and safety issues.	H2: Priorities for improvement of fresh and coastal water quality for contact recreation and Māori customary use.	O7 and P9(b) seek the maintenance of recreation values and where appropriate their enhancement. The implementation of the Strategic and Sub-catchment Reduction Plans as required by the proposed consent conditions will over the term of the consent achieve the maintenance and the enhancement of recreational values where these are effects by the WNOs. However, this will occur in some sub-catchments ahead of others. It will be the responsibility of the Collaborative Committee to determine the prioritised of sub-catchments. It is anticipated that those sub-catchments identified through effects assessments as experiencing high / significant adverse effects, particularly in terms of public health and cultural effects will be prioritised first for improvement. As some sub-catchments will be determined as having a lower priority, they may not be subject to improvement until later in the term of the consent. It is expected that Wellington Water's network maintenance programme will ensure that the frequency of overflows will not increase and that recreation values will be continued by using roving crews, renewal programmes and the Inflow Surveys. As discussed in the Part 1 Report, growth is not a contributing factor to WNO frequency. P9(a) seeks to avoid, remedy, or mitigate any adverse effects on contact recreation and Māori customary use by providing water quality and, in rivers, flows suitable for contact recreation and Māori customary use. The wastewater network overflow objectives require that the consent holder to progressively reduce the frequency of WNOs. Consequently, over time the reduction in overflows in sub-catchments should result in an improvement in water quality commensurate to the extent of the current effect the overflows. Noting that other sources of contaminants are also effecting water quality. Wellington Water relies upon GW's LAWA system for managing public health risks in recreation sites (Schedule H1). These mitigation measures are set out in the proposed consent conditions. The implementation of the consent in accordance

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		with these conditions will over the term of the consent assist in maintaining and enhancing recreational values and mitigating adverse effects derived from the WNOs on contact recreation and Māori customary use in fresh and coastal water. Consequently, it is considered that the proposal is not contrary to these objectives and policies.
Māori relationships Objective O3 Air, land, freshwater bodies and the coastal marine area are managed as integrated and connected resources; ki uta ki tai – mountains to the sea. Objective O12 The relationships of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga are recognised and provided for, including: (a) maintaining and improving opportunities for Māori customary use of the coastal marine area, rivers, lakes and their margins and natural wetlands, and (b) maintaining and improving the availability of mahinga kai species, in terms of quantity, quality and diversity, to support Māori customary harvest, and (c) providing for the relationship of mana whenua with Ngā Taonga Nui a Kiwa, including by maintaining or improving Ngā Taonga Nui a Kiwa so that the huanga identified in Schedule B are provided for, and (d) protecting sites with significant mana whenua values from use and development that will adversely affect their values and restoring those sites to a state where their characteristics and qualities sustain the identified values. Objective O13 Kaitiakitanga is recognised and mana whenua actively participate in planning and decision-making in relation to	Several of the receiving environments for the overflows are Ngā Taonga Nui a Kiwa, sites with significant mana whenua values and / or included in statutory acknowledgements (see the table of PNRP Schedules below).	A cultural impact assessment has been prepared on behalf of Taranaki Whānui ki Te Upoko o Te Ika and Ngāti Toa as part of the application. This assessment identifies the freshwater values held by Māori in the Hutt and Wainuiomata catchments and concludes with recommendations for the management of key network discharges. The assessment identifies that any discharge of fully treated, partially treated or untreated wastewater to natural streams and rivers goes against the cultural position for Māori, and adversely impacts the mauri of the waterbody. To this end Objective O12 and P18 cannot be fully met while there is a continued discharge of wastewater to these water bodies. However, the proposal seeks to reduce these discharges over time and to do so in manner that recognises the relationship of Māori to these taonga and which provides the opportunity for tangata whenua to exercise kaitiaki (as anticipated under Policy P19). This is proposed to be achieved through working in partnership with Mana Whenua in the planning and implementation of the resource consent. Key to the partnership is the proposal to establish the Collaborative Committee which has equal representation from Mana Whenua and the consent holder. The functions of the Committee include: • Through Strategic Reduction Plan prioritise sub-catchments and set the containment standard. The recommendations from the cultural impact assessment will be used to inform prioritisation.

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the use, development and protection of natural and physical resources. Policy P18: Mauri The mauri of fresh and coastal waters shall be recognised as being important to Māori and is sustained and enhanced, including by: (a) managing the individual and cumulative adverse effects of activities that may impact on mauri in the manner set out in the rest of the Plan, and (b) providing for those activities that sustain and enhance mauri, and (c) recognising and providing for the role of kaitiaki in sustaining mauri. Policy P19: Mana whenua relationships with Ngā Taonga Nui a Kiwa The relationships between mana whenua and Ngā Huanga o Ngā Taonga Nui a Kiwa identified in Schedule B (Ngā Taonga Nui a Kiwa) will be recognised and provided for by: (a) having particular regard to the values and Ngā Taonga Nui a Kiwa huanga identified in Schedule B (Ngā Taonga Nui a Kiwa) when applying for, and making decisions on resource consent applications, and developing Whaitua Implementation Programmes, and (b) informing iwi authorities of relevant resource consents relating to Ngā Taonga Nui a Kiwa, and (c) recognising the relevant iwi authority/ies as an affected party under RMA s95E where activities risk having a minor or more than minor adverse effect on Ngā Huanga o Ngā Taonga Nui a Kiwa or on the significant values of a Schedule C site which is located downstream, and (d) working with mana whenua, landowners, and other interested parties as appropriate, to develop and		• Overseeing the development and implementation of Sub-catchment Reduction Plans firstly in prioritised sub-catchments. • Overseeing the preparation and implementation of the Mātauranga Māori Monitoring Plan. This Plan will be required to be aligned with the Regional Kaitiaki Monitoring Framework (Method M2 of the PNRP). • Determining the option to be developed that will achieve or contribute to achieving the Zero Overflow Aspirations. The WNO Objectives are key to the future management of the overflows as the consent conditions require consent holder to achieve the objectives over the term of the consent. They include objectives requiring that: • Partnerships are developed with Mana Whenua for the oversight, planning and implementation of the resource consent for wet weather overflows • The reduction of wet weather overflows is prioritised in sub-catchments where the overflows are having an adverse effect on Mana Whenua sites of significance. The Collaborative Committee has been designed to facilitate opportunities for tangata whenua to exercise kaitiakitanga and to recognise the role of tangata whenua as kaitiaki. The proposed conditions require a Mātauranga Māori expert or other party agreed to by Taranaki Whānui to support the consent holder in in preparing the Strategic and Sub-catchment Reduction Plans. This should facilitate incorporating mātauranga Māori into the future management of the wastewater overflows. The WNO objective to prioritise the reduction of wet weather overflows in catchments where the overflows are having an adverse effect on Mana Whenua sites of significance and the Collaborative Committee's responsibility in prioritising sub-catchments for improvement should facilitate the protection and management of areas or sites of significance or special value to Māori.

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implement restoration initiatives within Ngā Taonga Nui a Kiwa, and (e) the Wellington Regional Council and iwi authorities implementing kaupapa Māori monitoring of Ngā Taonga Nui a Kiwa. Policy P20: Māori values The cultural relationship of Māori with air, land and water shall be recognised and the adverse effects on this relationship and their values shall be minimised. Policy P21: Exercise of kaitiakitanga Kaitiakitanga shall be recognised and provided for by involving mana whenua in the assessment and decision-making processes associated with use and development of natural and physical resources including; (a) managing activities in sites with significant mana whenua values listed in Schedule C (mana whenua) in accordance with tikanga and kaupapa Māori as exercised by mana whenua, and (b) the identification and inclusion of mana whenua attributes and values in the kaitiaki information and monitoring strategy in accordance with Method M2, and (c) identification of mana whenua values and attributes and their application through tikanga and kaupapa Māori in the maintenance and enhancement of mana whenua relationships with Ngā Taonga Nui a Kiwa.		The proposed approach for working in partnership with Mana Whenua in the planning and implementation of the resources consent is designed to recognises kaitiakitanga and contribute to: • the improvement of opportunities for Māori customary use • the incremental replenishment of the mauri of waterbodies in the catchments • the protection of sites of significance to mana whenua, Ngā Taonga Nui a Kiwa and of mahinga kai. The proposed conditions discussed above, including the management arrangements, are designed to recognise and provide for Mana Whenua values and relationships and the exercising kaitiakitanga. It is anticipated that with the successful implementation of the proposed conditions, overall, the proposal would not be contrary to the objectives and policies relating to Māori values, however this needs to be determined by Mana Whenua.
Mana Whenua sites of significance Policy P48: Managing adverse effects on sites with significant mana whenua values Sites with significant mana whenua values identified in Schedule C shall be protected and restored by managing use and development in the following manner: (a) in the first instance, avoid locating activities within sites listed in Schedule C;	There are a number of receiving environments that are sites with significant mana whenua values identified in Schedule C. These include Waiwhetū Stream, Te Awa Kairangi / Hutt River, Wainuiomata River, Hutt	The Cultural Values Assessment identifies discharges and receiving environments that are a priority for remedial works. These are the discharges to Black Creek and the discharge to the Hutt River at the Silverstream Storage tank. Sites identified in the pNRP with significant mana whenua values and in the CIA have been taken into account in determining the priority sub-catchments in the AEE. These priorities will inform the development of the Strategic Reduction Plan, noting the

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(b) require any more than minor adverse effects of activities on the significant mana whenua values of the site to be evaluated through a cultural impact assessment undertaken by the relevant mana whenua as identified in Schedule C; and (c) significant adverse effects of an activity on the significant values of the site shall be avoided. (d) other adverse effects shall be managed in accordance with tikanga and kaupapa Maori responding to recommendations in the cultural impact assessment to: (i) avoid more than minor adverse effects on the significant values of the site; and (ii) where more than minor adverse effects cannot be avoided, minimising them, and (iii) where more than minor adverse effects cannot be avoided and/or minimised, they are remedied; and (e) where more than minor adverse effects on significant mana whenua values identified in Schedule C (mana whenua) cannot be avoided, minimised, or remedied, the activity is inappropriate. Offsetting of effects on sites with significant mana whenua values is inappropriate except where provided for in Policy P49, and (f) the relevant mana whenua as identified in Schedule C shall be considered to be an affected party under RMA s95E for all activities which require resource consent within a Schedule C site where the adverse effects are minor or more than minor, unless the application is publicly notified. <u>Policy P49: Offsetting residual adverse effects on sites of significance to mana whenua</u> Residual adverse effects that are not otherwise avoided, minimised or remedied in accordance with the management hierarchy in Policy P45 may be offset where the relevant mana whenua as identified in Schedule C:	Estuary, Petone / East Harbour Beaches	Collaborative Committee's responsibility in determining the prioritisation of sub-catchments through the development of the Plan. Discharges to Schedule C sites have been and will, through implementation of the consent, continue to be prioritised for improvement. Policy 49 provides the opportunity for effects on sites of significance to Mana Whenua that are not otherwise avoided, minimised or remedied to be offset. If the need for offsetting is identified through cultural values assessments, these initiatives could be developed and implemented through the Strategic and Sub-catchment Reduction Plans. The proposed conditions are designed to remove, reduce or minimise the effects of the overflows on Mana Whenua sites of significance. The Collaborative Committee has the responsibility of prioritising the reduction of wet weather overflows where they have an adverse effect on sites of significance. It is anticipated that with the successful implementation of the proposed conditions, the proposal would not be contrary to the objectives and policies relating to Mana Whenua sites of significance, however this needs to be determined by Mana Whenua.

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(a) considers the offsetting of residual adverse effects is appropriate in the particular circumstances, and (b) have: (i) an offsetting policy in place that applies to the area and values to be affected by the proposed development, or (ii) prepared a cultural impact assessment that includes specific direction for the offsetting of effects of the proposed activity on the site of significance, and (iii) expressly confirms that the offset proposed is consistent with: 1. the offsetting policy in Policy P45A(b)(i) (where applicable), and 2. the cultural impact assessment in Policy P45A(b)(ii), and 3. the offsetting principles set out in Schedule G3. Where offsetting is proposed for a site of significance that is associated with multiple mana whenua, there must be an agreed position between all groups that offsetting is appropriate and that (b) has been met.		
Water quality, aquatic ecosystem health, mahinga kai <u>Objective O17</u> The quality of groundwater, water in surface water bodies and the coastal marine area is maintained or improved. <u>Objective O18</u> Rivers, lakes, natural wetlands and coastal water are suitable for contact recreation and Māori customary use, including by: (a) maintaining water quality, or (b) improving water quality in:	The pNRP contains this note in respect of Objectives O18 and O19 For the purposes of this objective 'a reasonable timeframe' is a date for the applicable water body or coastal marine area inserted into this Plan through the plan change/s required by the RMA to implement the NPS-FM	The AEE provides an assessment of the current state of the sub-catchments against pNRP Objective O18 (suitability for contact recreation) and Objective 019 (biodiversity, aquatic ecosystem health and mahinga kai) for each sub-catchment, using existing information and data. It is recognised, however, that the amount and quality of information varies significantly across the sub-catchments and is quite limited in some instances. Consequently, the assessment is more complete in some sub-catchments than others. Given the variability of the available information and data for the purpose of assessing these objectives and policies it has been

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(i) significant contact recreation freshwater bodies and sites with significant mana whenua values identified in Schedule C and Ngā Taonga Nui a Kiwa identified in Schedule B to meet, as a minimum and within reasonable timeframes, the primary contact recreation objectives in Table 3.1, and (ii) coastal water and sites with significant mana whenua values identified in Schedule C and Ngā Taonga Nui a Kiwa identified in Schedule B to meet, as a minimum and within reasonable timeframes, the primary contact recreation objectives in Table 3.3, and (iii) all other rivers and lakes and natural wetlands to meet, as a minimum and within reasonable timeframes, the secondary contact recreation objectives in Table 3.2. <u>Policy P77: Improving water quality for contact recreation and Māori customary use</u> The quality of freshwater bodies and coastal water shall be improved to meet, over time and as a minimum, the objectives in Table 3.1, 3.2 and 3.3, including by: a) improving water quality in all first priority for improvement water bodies for secondary contact with water listed in Schedule H2 (priority water bodies) in accordance with Method M34, and b) having particular regard to improving water quality in freshwater bodies and coastal water where contact recreation and/or Māori customary use are adversely affected by discharges from stormwater from a port, airport or state highway, wastewater networks and wastewater treatment plants. <u>Objective O19</u>	2020, or 2050 if no other date is specified by 31 December 2026. There are a number of receiving environments that are sites with significant mana whenua values identified in Schedule C. These include Waiwhetū Stream, Te Awa Kairangi / Hutt River, Wainuiomata River, Hutt Estuary, Petone / East Harbour Beaches There are a number of receiving environments that are Ngā Taonga Nui a Kiwa identified in Schedule B. These Korokoro Stream, Te Awa Kairangi / Hutt River, Hutt Estuary, Petone / East Harbour Beaches	assumed that the water quality in the receiving environments and sub-catchments is to be improved. For receiving environments and sub-catchments where water quality needs to be improved O18 provides for this to happen within a reasonable timeframe i.e. a date for the applicable water body or coastal marine area inserted by a plan change or 2050 if no other date is specified by 31 December 2026. The application is designed to reduce the frequency of discharges over time. Sub-catchments will be prioritised by the Collaborative Committee, and it is anticipated that the Committee will take into account the sub-catchments that are most significantly affected. This will contribute to improving the quality of water in the catchment as sought by O17. There are sub-catchments where public health effects (these include contact recreation and mahinga kai) have been classified as significant in the Assessment of Effects. The Collaborative Committee will be responsible for determining the prioritisation of sub-catchments through the Strategic Reduction Plan. It is anticipated that these sub-catchments will be prioritised and become the initial focus of the Sub-catchment Reduction Plans. The WNO Objectives require that the consent holder to progressively reduce the frequency of WNOs and prioritise the reduction of wet weather overflows in sub-catchments where the overflows are having an adverse effect on Mana Whenua sites of significance. The Strategic and Sub-catchment Reduction Plans are designed to achieve the WNO Objectives over the term of the consent and the Collaborative Committee is responsible for ensuring the objectives are achieved and for monitoring progress in achieving the objectives. The implementation of the consent in accordance with conditions discussed above will over the term of the consent assist in reducing and where reasonably practical minimising adverse effects derived from the WNOs on water quality, contact recreation, aquatic ecosystem health, biodiversity and mahinga

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Biodiversity, aquatic ecosystem health and mahinga kai in freshwater bodies and the coastal marine area are safeguarded such that: a) water quality, flows, water levels and aquatic and coastal habitats are managed to maintain biodiversity aquatic ecosystem health and mahinga kai, and b) where an objective in Tables 3.4, 3.5, 3.6, 3.7 or 3.8 is not met, a freshwater body or coastal marine area is meaningfully improved so that the objective is met within a reasonable timeframe. (c) restoration of aquatic ecosystem health and mahinga kai is encouraged. <u>Policy P30: Biodiversity, aquatic ecosystem health and mahinga kai</u> Manage the adverse effects of use and development on biodiversity, aquatic ecosystem health and mahinga kai to: *Water quality* (b) maintain or improve water quality including to assist with achieving the objectives in Tables 3.4, 3.5, 3.6, 3.7 and 3.8 of Objective O19, and *Aquatic habitat diversity and quality* (c) maintain or where practicable restore aquatic habitat diversity and quality, including: (i) the form, frequency and pattern of pools, runs, and riffles in rivers, and (ii) the natural form of rivers, lakes, natural wetlands and the coastal marine area, and (d) where practicable restore the connections between fragmented aquatic habitats, and *Critical habitat for indigenous aquatic species and indigenous birds*		kai. Consequently, it is considered that the proposal is not contrary to these objectives and policies.

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(e) maintain or where practicable restore habitats that are important to the life cycle and survival of indigenous aquatic species and the habitats of indigenous birds in the coastal marine area, natural wetlands and the beds of lakes and rivers and their margins that are used for breeding, roosting, feeding, and migration, and *Critical life cycle periods* (f) avoid, minimise or remedy adverse effects on aquatic species at times which will most affect the breeding, spawning, and dispersal or migration of those species, including timing the activity, or the adverse effects of the activity, to avoid times of the year when adverse effects may be more significant, and *Riparian habitats* (g) maintain or where practicable restore riparian habitats, and <u>Policy P78: Managing point source discharges for aquatic ecosystem health and mahinga kai</u> Where an objective in Table 3.4, Table 3.5, Table 3.6, Table 3.7 or Table 3.8 of Objective O19 is not met, point source discharges to water shall be managed in the following way: a) for an existing discharge that contributes to the objective(s) not being met, the discharge is only appropriate if: i. at a minimum an application for a resource consent includes a defined programme of work for upgrading the discharge, in accordance with good management practice, within the term of the resource consent, and ii. conditions on the resource consent require the adverse effects of the discharge to be minimised in order to improve water quality in relation to the objective(s) not met, and		In terms of P78, as previously discussed, in some sub-catchments and receiving environments the objectives in O19 are not met. However, it is difficult to determine the contribution of a WNO to the non-achievement and to then determine appropriate mitigation commensurate to the contribution. In terms of P78, clause (a), the application includes a strategic management plan for the management of WNOs. The Plan sets out the process the consent holder will follow to meet the WNO objectives (which includes the objective that the frequency of wet weather overflow events is progressively reduced) and the containment standard(s) that will be set by the Collaborative Committee. The proposed consent conditions are key to the implementation of the strategic management plan. They set out the WNO objectives and include a comprehensive suite of conditions and methodologies relating to the Strategic and Sub-catchment Reduction Plans, the setting of the containment standard and the programme of improvements and priorities.

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iii. in determining the improvement to water quality required in (ii), and the timeframe in which it is to be achieved, consideration will be given to the discharge's contribution to the objective(s) not being met		
Sites with significant indigenous biodiversity values Objective O28 Ecosystems and habitats with significant indigenous biodiversity values are protected from the adverse effects of use and development, and where appropriate restored to a healthy functioning state including as defined by Tables 3.4, 3.5, 3.6, 3.7 and 3.8. Policy P31: Adverse effects on biodiversity, aquatic ecosystem health and mahinga kai Adverse effects on biodiversity, aquatic ecosystem health and mahinga kai shall be managed by: a) in the first instance, activities that risk causing adverse effects on the values of a Schedule F ecosystem or habitat, other than activities carried out in accordance with a wetland restoration management plan, shall avoid these ecosystems and habitats. If the ecosystem or habitat cannot be avoided, the adverse effects of activities shall be managed by (b) to (g) below. b) avoiding adverse effects where practicable, and c) where adverse effects cannot be avoided, minimising them where practicable, and d) where adverse effects cannot be minimised, they are remedied except as provided for in (a) to (g), and e) where more than minor residual adverse effects cannot be avoided, minimised, or remedied, biodiversity offsetting is provided where possible and	Several of the receiving environments for the discharges are included in Schedules F1, F2 F4 and F5 (see the table of pNRP Schedules below).	The purpose of the proposed Strategic and Sub-catchment Reduction Plans is to progressively reduce the frequency of the discharges over time. Sub-catchments will be prioritised by the Collaborative Committee Strategic Reduction Plan taking into account the sub-catchments that are most significantly affected, social, public health, economic, cultural and environmental effects / risks. While these efforts on their own will not restore the waterbodies to healthy functioning state (where this does not currently exist), it will contribute towards the objective in O28. P31 sets up a hierarchy for managing effects biodiversity, aquatic ecosystem health and mahinga kai. As previously discussed, because the wastewater network is designed to overflow when capacity is exceeded, overflows may not be avoided at all locations. The Strategic and Sub-catchment Reduction Plans including the setting of a containment standard are designed to minimise effects by reducing the frequency of overflows. The environmental effects assessments form an important part of the process for determining the containment standard and developing the Strategic Reduction Plan. If the need for offsetting is identified offsetting and/or compensation initiatives could be developed and implemented through the Strategic and Sub-catchment Reduction Plans.

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(f) if biodiversity offsetting of more than minor residual adverse effects is not possible, biodiversity compensation is provided, and (g) the activity itself is avoided if biodiversity compensation cannot be undertaken in a way that is appropriate as set out in Schedule G3, including Clause 2 of that Schedule. In relation to activities within the beds of lakes, rivers and natural wetlands, (e) to (g) only apply to activities which meet the exceptions in Policy P102. A precautionary approach shall be used when assessing the potential for adverse effects on ecosystems and habitats with significant indigenous biodiversity values identified in Schedule F. <u>Policy P38: Indigenous biodiversity values within the coastal marine area</u> To protect the indigenous biodiversity values of aquatic ecosystems, habitats and species, use and development within the coastal environment shall: (a) avoid adverse effects on indigenous biodiversity values that meet the criteria in Policy 11(a) of the New Zealand Coastal Policy Statement (NZCPS) namely: (i) indigenous taxa listed as threatened or at risk in the NZ Threat classification system lists or as threatened by the International Union for Conservation of Nature and Natural Resources; (ii) indigenous ecosystems and vegetation types in the coastal environment area that are threatened or are naturally rare; (iii) habitats of indigenous species where the species are at the limit of their natural range, or are naturally rare;		The assessment of effects at sub-catchment level undertaken in the Part 2 Report is conservative and takes the highest adverse effect of individual discharges (direct and indirect) as being representative of the effects on the sub-catchment. It is possible that a more granular analysis would reach different conclusions. The discharges occur at a variety of locations in the coastal environment. Given the nature of the overflows it is not possible to be certain that the discharges will avoid the values identified in P38. It is also very difficult to determine the contribution if any the discharge makes to any adverse effects on indigenous biodiversity values. As previously discussed in relation to Policy 31, the Strategic and Sub-catchment Reduction Plans including the setting of a containment standard are designed to minimise effects by reducing the frequency of overflows. The environmental effects assessments form an important part of the process for determining the containment standard and developing the Strategic Reduction Plan. It is noted however, that if the discharges were to effect indigenous biodiversity values, Policy P39 provides the opportunity to provide for the operation of existing regionally significant infrastructure in areas with these values where certain criteria are meet. The assessment of Policy P39 below demonstrates that these criteria can be met.

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(iv) areas in the coastal environment containing nationally significant examples of indigenous community types; (v) areas set aside for full or partial protection of indigenous biological diversity under other legislation. (b) avoid significant adverse effects, on indigenous biodiversity values that meet the criteria in Policy 11(b) (i) – (vi) of the NZCPS, and (c) manage non-significant adverse effects of activities on indigenous biodiversity values that meet the criteria in Policy 11(b) of the NZCPS by: (i) avoiding adverse effects where practicable, and (ii) where adverse effects cannot be avoided, minimising them where practicable, and (iii) where adverse effects cannot be minimised they are remedied where practicable, and (iv) where residual adverse effects cannot be avoided, minimised, or remedied, biodiversity offsetting is provided where possible, and (v) if biodiversity offsetting of residual adverse effects is not possible, the activity itself is avoided unless the activity is regionally significant infrastructure then biodiversity compensation is provided, and (vi) the activity itself is avoided if biodiversity compensation cannot be undertaken in a way that is appropriate as set out in Schedule G3, including Clause 2 of that schedule, and (c) for all other sites within the coastal environment not meeting Policy 11(a) or (b) of the NZCPS, manage significant adverse effects on indigenous biodiversity values using the effects management hierarchy set out in (b) to (g) of Policy P31.		

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Policy P39: Existing Regionally Significant Infrastructure and renewable energy generation activities within a site that meets any of the criteria in Policy P38(a)(i) – (v) or (b) or included in Schedule F5 Consider providing for the operation, maintenance, upgrade and extension of existing Regionally Significant Infrastructure and renewable energy generation activities within a site in the coastal environment that meets any of the criteria in Policy P38(a)(i) – (v) or (b) or included in Schedule F5 where: (a) there is a functional need or operational requirement for the activity to locate in that area, and (b) there is no practicable alternative on land or elsewhere in the coastal environment for the activity to be located, and (c) the activity provides for the maintenance and, where practicable, the enhancement or restoration of the affected significant indigenous biodiversity values and attributes at, and in proximity to, the affected area, taking into account any consultation with the Wellington Regional Council, the Department of Conservation and mana whenua. Policy P42: Ecosystems and habitats with significant indigenous biodiversity values Protect in accordance with Policy P31 and Policies P38-P41 and where appropriate restore the following ecosystems and habitats with significant indigenous biodiversity values: a) the rivers and lakes with significant indigenous ecosystems identified in Schedule F1 (rivers/lakes), and b) the habitats for indigenous birds identified in Schedule F2 (bird habitats), and		In terms of Policy P39 clause (a), given that parts of the wastewater network are located alongside the boundary of the CMA, overflows from these parts of the network are functionally dependent on being located in the CMA. For instance, several wastewater pump stations are located at the coastal edge along the eastern bays of Wellington harbour where overflows cannot drain to anywhere except the coastal marine area. In terms of P39 clause (b) the wastewater network is purposely designed with relief points that during heavy rainfall events and other emergencies discharge to the CMA to reduce the risk of untreated wastewater overflowing into private property. The health risks associated with the discharge to the CMA are significantly less when compared with the risks associated with discharges to land and particular people homes and gardens. This is because the wastewater is diluted by the marine waters receiving environment and there is far less chance of direct public exposure. In terms of P39, clause (c), the previous discussions regarding the outcomes of the Strategic and Sub-catchment Reduction Plans including the containment and the Collaborative Committee apply to the assessment of this clause. It is also noted that there has been engagement with GWRC and DoC regarding this resource consent application. Given the above assessment, it is considered that the criteria set out in clauses (a) to (c) can be met and the operation of the Hutt Valley and Wainuiomata wastewater network should be provided for within the various sites in the coastal environment. The following receiving environments contain ecosystems and habitats that P42 seeks to protect and restore: Korokoro Stream (F1), Waiwhetū Stream (F1b, F4), Hutt River (F1, F2a), Wainuiomata River (F1, F1b), Hutt Estuary (F1, F1b, F2a, F2c, F4), Petone/East Harbour Foreshore (F2c), East Harbour Foreshore (F5 – rocky reef) and Wellington Harbour (F2c). As previously discussed in relation to Policy 31, the Strategic and Sub-catchment Reduction Plans including the setting of a

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c) significant natural wetlands, including the significant natural wetlands identified in Schedule F3 (identified significant natural wetlands), and d) the ecosystems and habitat-types with significant indigenous biodiversity values in the coastal marine area identified in Schedule F4 (coastal sites) and Schedule F5 (coastal habitats). Notes All natural wetlands in the Wellington Region are considered to be ecosystems and habitats with significant indigenous biodiversity values as they meet at least two of the criteria listed in Policy 23 of the Regional Policy Statement 2013 for identifying indigenous ecosystems and habitats with significant indigenous biodiversity values; being representativeness and rarity. <u>Policy P43: Effects on the spawning and migration of indigenous fish species</u> Avoid more than minor adverse effects of activities on indigenous fish species known to be present in any water body identified in Schedule F1 (rivers/lakes) as habitat for indigenous fish species, and or Schedule F1b (inanga spawning habitats), during known spawning and migration times identified in Schedule F1a (fish spawning/migration). These activities may include the following: (a) discharges of contaminants, including sediment, and (b) disturbance of the bed or banks that would significantly affect spawning habitat at peak times of the year, and (c) damming, diversion or taking of water which leads to significant loss of flow or which makes the river impassable to migrating indigenous fish.		containment standard are designed to minimise effects by reducing the frequency of overflows. The environmental effects assessments form an important part of the development of the Strategic Reduction Plan which includes the process for determining the containment standard. In terms of P42(c), the WNOs covered by this application do not discharge into any Outstanding Natural Wetlands. P43 seeks to avoid more than minor adverse effects on indigenous fish species known to be present in any water body identified in Schedule F1 and F1b. The Korokoro Stream, Waiwhetū Stream, Hutt River and Wainuiomata River catchment (excluding Black Creek) are all water bodies that are both identified in Schedules and F1 and F1b and receiving environments for wastewater overflows. The effects of the overflow discharges on the indigenous fish species known to be present in these receiving environments are not more than minor. Reducing the frequency of the WNOs and meeting the containment standards adopted by the Collaborative Committee should in some instances result in the adverse effects derived from the overflows on the values of a Schedule F ecosystem or habitat being avoided. In other instances, the effects will be minimised or at least reduced. If the need for offsetting is identified, offsetting initiatives could be developed and implemented through the Strategic and Sub-catchment Reduction Plans. The implementation of the consent in accordance with proposed resource consent conditions discussed in the above assessments

Key Objectives / Policies	Relevance / Discussion	Assessment
Policy P44 Managing effects on ecosystems and habitats with significant indigenous biodiversity values from activities outside these ecosystems and habitats In order to protect the ecosystems and habitats with significant indigenous biodiversity values in accordance with Policy P42, particular regard shall be given to managing the adverse effects of use and development in areas outside of these ecosystems and habitats on physical, chemical and biological processes to: (a) maintain ecological connections within and between these habitats, or (b) provide for the enhancement of ecological connectivity between fragmented habitats through biodiversity offsets, and (c) provide adequate buffers around ecosystems and habitats with significant indigenous biodiversity values, and (d) avoid cumulative adverse effects on, and the incremental loss of significant indigenous biodiversity values.		will over the term of the consent assist in progressing the protection of ecosystems and habitats with significant indigenous biodiversity values. Consequently, it is considered that the proposal is not contrary to these objectives and policies.
Wastewater and stormwater interactions Policy P87: Minimising wastewater and stormwater interactions The adverse effects of wastewater and stormwater interactions on fresh and coastal water shall be minimised by: (a) avoiding wastewater contamination of stormwater from new wastewater networks or connections authorised after the date of 31 July 2015, and (b) removal of existing wastewater contamination of stormwater progressively, and as soon as reasonably practicable, and	The application includes consent for the discharge of wet weather overflows from the stormwater network.	In terms of clause (a) of P87, this application only relates to existing WNOs from existing networks and not new wastewater networks. Consequently clause (a) is not relevant to this application. With respect to the wastewater network overflows covered in this application, Wellington Water seeks to minimise wastewater and stormwater interactions through the "Inflow Survey" programme for the Hutt Valley and Wainuiomata. This includes flow monitoring at several locations in the wastewater network to identify where the highest flows are coming from with respect to rainfall in order to prioritise inspections and remedial work. The focus of the inspections is on removing direct connections of stormwater inflow to the wastewater system. This is done by inspection teams visiting all properties in the relevant area to

Key Objectives / Policies	Relevance / Discussion	Assessment
(c) progressively reducing stormwater and groundwater infiltration and inflow into the wastewater network. <u>Policy P88: Assessing resource consents to discharge stormwater containing wastewater</u> A resource consent application under Rule R53 to discharge stormwater from a local authority stormwater network known to contain wastewater is inappropriate unless the application includes: (a) a plan of how Policy P87 will be achieved, including key milestones and dates, and (b) the results of consultation with mana whenua on their values and interests in relation to discharges and receiving waters.		visually inspect the gully traps to verify that the gully traps are sufficiently high to not drain surface water and also that there are no direct connections of stormwater drains. In some cases, the inspectors may also use fog machines to blow fog into wastewater drains to check that there are no major faults or buried connections to stormwater downpipes. In terms of P88, the application includes a strategic management plan for the management of WNOs. The Plan sets out the process the consent holder will follow to meet the WNO Objectives and the containment standard(s) that will be set by the Collaborative Committee. Mana whenua will have significant involvement and responsibilities in implementing the WNO consent primarily through their role on the Collaborative Committee, in providing Mātauranga Māori guidance and direction to the consent holder and through cultural values assessments. The proposed consent conditions are key to the implementation of the strategic management plan. Based on the above assessment it is considered that the proposal is not contrary to the objectives and policies relating to wastewater and stormwater interactions.

Table 6: PNRP Schedules that Apply to the Receiving Environments for the Discharges

PNRP Schedule	Receiving Environments										
	Freshwater								Coastal		
	Korokoro Stream	Waiwhetū Stream	Hull Creek	Te Mome Stream	Mangaroa River	Hutt River	Black Creek	Wainuiomata River	Hutt Estuary	Petone / East Harbour Beaches	Wellington Harbour
A: Outstanding waterbodies	-	-	-	-	-	-	-	-	-	-	-
B: Ngā Taonga Nui a Kiwa	Taranaki Whānui ki te Upoko o te Ika	-	-	-	-	Ngāti Toa Rangatira, Taranaki Whānui ki te Upoko o te Ika	-	-	Ngāti Toa Rangatira, Taranaki Whānui ki te Upoko o te Ika	Ngāti Toa Rangatira, Taranaki Whānui ki te Upoko o te Ika	Ngāti Toa Rangatira, Taranaki Whānui ki te Upoko o te Ika
C: Sites with significant mana whenua values	-	Taranaki Whānui ki te Upoko o te Ika	-	-	-	Taranaki Whānui ki te Upoko o te Ika	-	Taranaki Whānui ki te Upoko o te Ika	Taranaki Whānui ki te Upoko o te Ika	Taranaki Whānui ki te Upoko o te Ika	-
D1: Statutory acknowledgments	-	Taranaki Whānui ki te Upoko o te Ika	-	-	-	Taranaki Whānui ki te Upoko o te Ika	-	-	Taranaki Whānui ki te Upoko o te Ika	Taranaki Whānui ki te Upoko o te Ika	Taranaki Whānui ki te Upoko o te Ika
D2: Statutory acknowledgments	-	Ngāti Toa Rangatira	Ngāti Toa Rangatira	Ngāti Toa Rangatira	Ngāti Toa Rangatira	Ngāti Toa Rangatira	-	-	Ngāti Toa Rangatira	Ngāti Toa Rangatira	Ngāti Toa Rangatira
F1: Rivers and lakes with significant indigenous ecosystems	✓	-	-	-	-	✓	-	✓	✓	-	-
F1b: Known rivers and parts of the coastal marine area with inanga spawning habitat	-	✓	-	-	-	-	-	✓	✓	-	-

PNRP Schedule	Receiving Environments										
	Freshwater								Coastal		
	Korokoro Stream	Waiwhetū Stream	Hull Creek	Te Mome Stream	Mangaroa River	Hutt River	Black Creek	Wainuiomata River	Hutt Estuary	Petone / East Harbour Beaches	Wellington Harbour
F2a: Habitats for indigenous birds in rivers	-	-	-	-	-	✓	-	-	✓	-	-
F2c: Significant habitats for indigenous birds in the coastal marine area	-	-	-	-	-	-	-	-	✓	✓	✓
F4: Sites with significant indigenous biodiversity values in the coastal marine area	-	✓	-	-	-	-	-	-	✓	-	-
F5: Habitats with significant indigenous biodiversity values in the coastal marine area	-	-	-	-	-	-	-	-	-	✓ - east harbour rocky reefs	-
H1: Significant contact recreation freshwater bodies	-	-	-	-	-	✓	-	✓	-	-	-
H2: Priorities for improvement of fresh and coastal water quality for contact recreation and Māori customary use	-	-	-	-	-	✓ (first priority)	-	✓ (first priority)	-	-	-

PNRP Schedule	Receiving Environments										
	Freshwater								Coastal		
	Korokoro Stream	Waiwhetū Stream	Hull Creek	Te Mome Stream	Mangaroa River	Hutt River	Black Creek	Wainuiomata River	Hutt Estuary	Petone / East Harbour Beaches	Wellington Harbour
I: Part A, Important trout fishery rivers	✓	-	-	-	-	✓	-	✓	-	-	-
I: Part B, Important trout spawning rivers	-	-	-	-	✓	✓	-	✓	-	-	-

APPENDIX 2 ENGAGEMENT - COMMENTS ON MAP

Hutt/Wainuiomata wastewater network overflows engagement socialpinpoint map comments 17 Dec 2020

Location	Comment	Up Votes	Down Votes	Sentiment
Black Creek	This seems an extremely busy area to have high overflow frequencies. It is not clear from your map exactly how often this overflows as it is unclear how this site relates to the descriptors.	2	0	NEGATIVE
Black Creek	I am feeling very sorry for Wainuiomata stream. The number of overflow points in this area that is problematic seems problematic in itself.	1	0	NEGATIVE
Black Creek	20 overflows a year in an urban environment sounds very unsafe and completely unacceptable. I hope the community in the immediate environment are aware of the health risks.	2	0	NEGATIVE
Hulls Creek	This overflow concerns me somewhat because Taita rock is such a popular swimming spot. Do signs get erected there after an overflow? I hope so.	0	0	MIXED
Waiwhetu Stream	Randwick Canal? I've never heard that name before. This is the Waiwhetū Stream and I'd prefer to see it labelled as such.	0	0	NEUTRAL
Waiwhetu Stream	I'm glad to see there are no overflows in Naenae. However, the stream here from time is polluted with industrial wastewater from Wingate, which is pretty depressing for those of us who care for the stream.	0	0	NEGATIVE
Hutt River/Catchment (bottom of Belmont Hills, relating to either Grounsell Cres or SH2)	Regular road flooding here due to blocked drains	0	0	
Waiwhetu Stream	Leaking sewerage regularly into this stream, 12million spent to clean up, leaking pipes, under prepared for increase in housing yet council still increasing density in this area, totally runs brown and stinks, birdlife , fish , eels all damaged, Health warning signs for over 4 months, children live next to stream, schools next to stream, absolute disgrace to anyone involved in this! hang your heads in shame	0	0	NEGATIVE
Waiwhetu Stream	Smell coming from this place is regularly disgusting, smelt throughout Port Road Gracefield , Hutt Park roundabout	0	0	NEGATIVE
Black Creek	Black Creek seems to have the highest frequency of water overflows annually which is a worry. What can be done to reduce the frequency?	0	0	NEUTRAL

APPENDIX 3 WIKAIRA REVIEW

Memo

Date	1 February 2022
From	Wikaira Consulting Limited
To	Wellington Water
Project	WWL Consent for Overflows
Re	Hutt Valley Network Overflows Application: Initial Feedback

Purpose

The purpose of this memo is to provide comments and recommendations on the five documents sent to Wikaira Consulting by Wellington Water Ltd on 12 January 2022. Those documents are:

Cultural Impact Assessment for Port Nicholson Block Settlement Trust & Wellington Tenths Trust, Te Atiawa-Taranaki Whānui on the Hutt Valley Wastewater Overflows Re-Consenting Te Awa Kairangi/Hutt & the Wainuiomata Rivers and their tributaries. (May 2021, 36 pages)

Draft Resource Consent Conditions Dry Weather Wastewater Overflows (HCC and UHCC). (4 pages)

Draft Resource Consent Conditions Wet Weather Overflows (HCC and UHCC). (23 pages)

Draft Hutt WNO Part1 Report. (63 pages)

Draft Hutt WNO AEE Part2. (199 pages)

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
Cultural Impact Assessment (CIA			
1.		**<u>Comment - Priority Sites</u>** The CIA identifies a number of high-risk discharge sites that warrant closer attention. However, only one of them - the Barber Grove pump station into the Hutt River - appears to be listed as a priority in the LTP. If Mana Whenua have identified sites failing to meet standards, then those sites should be given priority as well. **Recommendation** • include sites listed in the CIA as 'priority sites' or reflect important sites referred to in CIA (to demonstrate the consent application has captured this important information.	The AEE (Part 2 Report) identifies priority receiving environments. These are determined through the methodology for the Assessment of Effects of Wet Weather Wastewater Overflows contained in the consent conditions which involves assessing ecological, cultural, recreation and aesthetic effects. Receiving environments where an overflow point is in the vicinity of a cultural value site are designated as "Very important" and all other locations are "Important". A cultural value site is defined as follows: • Any site of relevance to Māori noted on the Cultural Heritage Inventory (CHI) such as an archaeological site, a midden or similar • Wāhi tapu sites, urupa • Pa sites, waka landing sites • Food gathering areas • Battle sites and other sites where significant events occurred • Sites identified in a Cultural Impact Assessment • Site identified in Schedules B or C of the PNRP

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
			As proposed in the consent conditions (Attachment 2) The first WNO Response Plan must include priority receiving environments and these will be determined through the AEE and through cultural values assessments and advice from Mana Whenua. The review of the WNO Response Plan involves reviewing the state of priority receiving environments with support from a Mātauranga Māori expert using the AEE methodology cultural values assessments, and advice from Mana Whenua. It shall also be informed monitoring data including data from Mātauranga Māori monitoring. One of the functions of the Collaborative Committee is to review the priority receiving environments identified in and recommend any changes or additions to the priority receiving environments.
2.		**<u>Comment - A 'Global' Iwi Monitoring Strategy</u>** The CIA dismisses the need to develop a Mana Whenua monitoring plan separate from the overall monitoring of the rivers and streams, and instead recommends a comprehensive iwi monitoring strategy of the main rivers and some streams at key points to cover all matters, which would include creating a cultural health index or indicators based on	Monitoring by Mana Whenua is a key component that feeds into the reviews of the WNO Response Plan and the ongoing performance of the network. The approach to monitoring needs to be discussed further and a way forward confirmed. Matters to be resolved

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
		indigenous resources, e.g. fish populations such as tuna / long finned eel, inanga, piharau / lamprey, and kokopu. The strategy would need to be developed in close partnership with Mana Whenua and be integrated with all monitoring requirements under the various WWL held resource consents. **Recommendation** • develop a comprehensive iwi monitoring strategy with Mana Whenua. • Te Mahere Wai could be referred to here too (but we will need to check with mana whenua as to whether this approach works best).	Regional Kaitiaki Information and Monitoring Strategy Mātauranga Māori monitoring plan – WNO specific Incorporate Mātauranga Māori monitoring in WWL monitoring plan How Mātauranga Māori monitoring will be undertaken and resourced
Draft Resource Consent Conditions Dry Weather Wastewater Overflows (HCC and UHCC)			
3. **Page 3.**	**Condition 10** *"Within 24 hours of a dry weather overflow commencing or as soon as practicable, the consent holder shall notify the Manager, the Medical Officer of Health (Regional Public Health), and Mana Whenua of the overflow. The notification shall include the following details:* *Nature of the overflow discharge* *Location of the overflow discharge* *Receiving environment*	**Comment** - Included as a detail should be the proximity / effect on any Site and Area of Significance to Māori (SASM). **Recommendation** include the proximity / effect (potential or otherwise) on any SASM when notifying Mana Whenua of a dry weather overflow. Work together to shape methodology that includes Mana Whenua	Amended the condition to include that the overflow report which must be provided to Mana Whenua within 48 hours of the overflow ceasing must include information on any direct contact between the overflow discharge and Mana Whenua sites of significance. WNO Response Plan to be updated to include notification of Mana Whenua and reporting on Mana Whenua sites of significance.

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
	Start date and time where available *Contact details of the person reporting the notification".*		
Draft Resource Consent Conditions Wet Weather Wastewater Overflows (HCC and UHCC)			
4.		**<u>Comment - Annual Report</u>** Mana Whenua need to be involved at all levels of the project, not just oversight. They do not appear to be included in any monitoring or assessment that informs the annual report. It's important that they see what's happening to their waterways as a result of the discharges and are able to make accurate and informed recommendations and decisions. There is also an opportunity for training / education programs for rangatahi in this field. **Recommendation** Input from a mātauranga Māori expert should be included in the annual report on wet weather overflows. Implement training/education programs for rangatahi in freshwater management.	Amended the Annual Report conditions as follows The consent holder shall with support from a Mātauranga Māori expert prepare an Annual Report. The Annual Report shall include a summary of physical capital and maintenance works to the wastewater network carried out in the previous year and an assessment of the effectiveness of the works in - addressing adverse effects on mahinga kai, customary use, and Mana Whenua sites of significance. The Annual Report shall include - results from Mātauranga Māori monitoring The first Annual Report shall include an assessment by a suitably qualified and experienced environmental scientist and a Mātauranga Māori expert of the adequacy of existing monitoring and investigations……

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
Draft Hutt WNO Part1 Report			
5. **Pages 21-22.**	**Statement of Intent 2020-2023** *"The Statement of Intent sets out WWL strategic intentions for the three-year period from 2020 to 2023. The following strategic priorities have been set through an ongoing process with councils.* *Priority 1: Looking after existing three waters assets;* *Priority 2: Supporting growth so there are no adverse environmental impacts;* *Priority 3: Reducing water consumption;* *Priority 4: Improving water quality; and* *Priority 5: Reducing carbon emissions."*	**Comment** - Where is the intent/priority to partner with Mana Whenua? Neither the Impact Statements nor the Measures of Success (p.22) indicate that partnership with Mana Whenua is a priority. **Recommendation** Priorities / investment objectives should be revised and developed in partnership with Mana Whenua.	Outside the scope of the application. Wellington Water to address separately.
6. **Page 27.**	**Wastewater Network Overflow Objectives** *"The basis for the wastewater network overflow objectives is the provisions of the pNRP and in particular Policy 81 and Rule 61."*	**Comment** - What about O24 and 25, P17-20, P44-45, P82? How have these Māori-centric policies informed the application process? **Recommendation** revise the wastewater network overflow objectives in collaboration, using the Māori centric policies in the pNRP as a basis/guide.	Included two additional objectives b. A partnership with Mana Whenua for the oversight, planning and implementation of the resource consent for wet weather overflows. c. Priority to the removal of wet weather overflows in catchments where the

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
		Discussion: include an objective to reflect mana whenua. What are the outcomes would like to be achieved?	overflows are having an adverse effect on Mana Whenua sites of significance.
7. **Page 34.**	**Steps for Setting Containment Standards** *"Mana whenua shall be invited to actively participate in the cultural component of the assessment of effects, or nominate a consultant to complete this assessment on their behalf."*	**Comment** - Mana Whenua participation need to be throughout this process if it is to be a real partnership. All aspects of wai are 'cultural'. **Recommendation** - Invite Mana Whenua to participate in all components of the assessment of effects. **Discussion:** can this be reflected in diagram at 4.5.2.3 Where do mana whenua fit? Collaborative Committee will be decision maker on what those standards will be.	WNO Reduction Plan condition has been amended as follows The consent holder shall, with support from a Mātauranga Māori expert and oversight from the Wastewater Network Collaborative Committee, prepare and implement a WNO Reduction Plan. The WNO Reduction Plan shall be reviewed and updated on a six yearly basis. The amendments to the WNO Reduction Plan preparation methodology proposes Cultural values assessments and advice from Mana Whenua to inform the priority receiving environments and future reviews of the state of these environments Mātauranga Māori expert to support the consent holder in developing the containment standard, the WNO reduction programme and future reviews, and reviews of progress towards achieving wastewater network overflow objectives and containment standards

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
			The amendments to the containment standard methodology propose: Use of data from Mātauranga Māori monitoring to assess the network performance and advice from Mana Whenua based on Mātauranga Māori monitoring Assessing of effects of the containment standards involves cultural values assessments and advice from Mana Whenua. The assessment and shall be undertaken by appropriately experienced experts including a Mātauranga Māori expert. In deciding on the number of containment standards the Collaborative Committee will be informed by cultural values assessments, and advice from Mana Whenua.
8. **Page 39.**	**Monitoring Plan** *"The monitoring plan that has been developed by WWL for monitoring the effects of discharges from the stormwater network (the Stormwater Monitoring Plan) also provides sufficient coverage to monitor the effects of overflows*	**Comment** - Mana Whenua should be involved in monitoring as per the NPS-FM 2020 giving effect to Te Mana o Te Wai. **Discussion** What is the best way to incorporate or capture Te Mahere Wai?	See comment in item 2 An assessment of Te Mahere Wai will be included in the application If Mana Whenua prepares a monitoring plan this would incorporate Te Mahere Wai

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
	from the wastewater network and will be adopted for that purpose."		
9. **Page 44.**	**Network Overflow Objectives** *"To assist the consent holder in managing dry weather overflows and make progress towards achieving the network overflow objective, a monitoring regime that identifies any recurring overflows or sections of the network that are susceptible to repeat problems is proposed. The monitoring regime is based on an analysis of complaints received at the call centre."*	**Comment** - What about also basing it on the concerns of Mana Whenua? In order to grasp what the wider iwi - whānau and hapū - are saying about network overflows, not just iwi representatives. This could entail workshops or surveying done with the help of local marae. **Recommendation** – To take into account Mana Whenua concerns when implementing the monitoring regime. Mana Whenua concerns could be collected via surveys sent to iwi members.	See comments in item 2 See proposed amendments to the Annual Report in item 4
10. **Pages 52-53.**	**National Policy Statement for Freshwater Management 2020** *"The framework set out in section 4 for the future management of the wastewater network overflows is consistent with the Te Mana o te Wai priorities in that the effects assessment methodology is designed to identify at risk receiving environments. The methodology takes into account the schedules in the pNRP that relate to a range of natural*	**Comment** - According to the NPS-FM 2020, the following is included under policy but does appear to be recognised in this document: Māori freshwater values are identified and provided for. Local authority must involve Mana Whenua in: (d) developing and implementing mātauranga Māori and other monitoring. Regional council must enable Mana Whenua to: (b) be actively involved (to the extent they wish to be involved) in decision-making processes relating to Māori freshwater values at each subsequent step of the NOF process.	See amendments in items 4 and 7 regarding Mātauranga Māori expert supporting the consent holder in developing the WNO Reduction Plan, Annual Plan and other references to the role of a Mātauranga Māori expert.

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
	environment values, cultural values and customary uses, and recreation values."	**Recommendation** – Employ a mātauranga Māori expert (or team if necessary) in monitoring, assessment, reporting and forecasting.	
11.		**<u>Comment - Term of Consent</u>** WWL is applying for a 35-year consent. However, the Kahui Wai Māori Report - Te Mana o Te Wai recommends new consents to be restricted (e.g. 5-10 years) to ensure they can quickly adhere to the rapidly changing / developing resource management system and meet Te Mana o Te Wai. **Recommendation** – Consent duration is a significant element of the application and needs to be robustly and collaboratively discussed and agreed with iwi, being open to explore options like conditioned application and condition reviews.	Discuss whether there is sufficient scope in the conditions and methodologies to respond to a changing resource management system and meet Te Mana o te Wai
12.		**<u>Comment - Wastewater Network Collaborative Committee (Collaborative Committee)</u>** WWL intends for the Collaborative Committee to have an equal number of representatives from Mana Whenua and the consent holder (HCC, UHCC, WWL). However, this is relying on Mana Whenua having the capacity to partner with them. Mana Whenua may not have the time and numbers to meet these	Still working on an alternative to the Collaborative Committee

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
		expectations, so there needs to be a procedure in place if this is the case. **Recommendation** – develop a plan to ensure effective partnership still occurs in case Mana Whenua do not have the time or capacity to join the Collaborative Committee. Furthermore, if Mana Whenua do not want to take part in the Collaborative Committee, they need to be engaged in order to work out what best partnership looks like to them.	
13.		**Partnership** Te Mana o Te Wai requires partnership with Mana Whenua to be reflected across all levels of water care, but there is little mention of Mana Whenua involvement other than their presence in the Collaborative Commitee. Furthermore, Mana Whenua are only invited to participate in the cultural component of assessing the effects of containment standards. Their involvement should not be limited to certain aspects but extend to all areas of the project, in order to reflect true partnership.	See items 4 and 7
14.		**Comment - Future Management of Wastewater Network Wet Weather Overflows** Mana Whenua have not been identified in Figure A: Future Management of Wastewater Network Wet Weather Overflows Key Consent Conditions and Timeline (p.4). If there is going to be true partnership,	See draft diagram – Mana Whenua responsibilities and integration into the WNO resource consent process

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
		there needs to be mana whenua representation at all levels of management.	
15.		**<u>Public Education</u>** The key agencies responsible for managing the public health risks due to wastewater overflows are GWRC, local councils (HCC, UHCC, PCC, and WCC via WWL), and Regional Public Health (RPH). However, could Mana Whenua be involved in public education campaigns reminding people to only dispose appropriate material into the wastewater network? As this is about protecting the waterways and their mauri. **Recommendation** – Partner with Mana Whenua in public education campaigns with a focus on protecting and improving the health and mauri of the waterways.	Outside the scope of the application. Wellington Water to address separately.
16.		**<u>Comment - Priority Environments</u>** It's important that WWL hear from all Mana Whenua (not just members of the Collaborative Committee) on what they find the priority environments to be. This can mean more CIAs in the future, as well as hiring mātauranga Māori experts to monitor and assess each waterway.	As proposed in the consent conditions (Attachment 2) The first WNO Response Plan must include priority receiving environments and these will be determined through the AEE and through cultural values assessments and advice from Mana Whenua. The review of the WNO Response Plan involves reviewing the state of priority receiving environments with support from a Mātauranga Māori expert using the AEE

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
			methodology cultural values assessments, and advice from Mana Whenua. It shall also be informed monitoring data including data from Mātauranga Māori monitoring.
17.		**Comment - Assessment of Network Overflow Performance** As part of each six yearly review the consent holder will prepare Wastewater Network Overflow Performance Report that assesses the performance of the wastewater network in relation to overflows over the previous six years. However, there does not appear to be any inclusion of Mana Whenua in this review process, nor state whether it will review cultural impacts or the effect on SASMs.	The amended consent conditions (Attachment 2) require that the wastewater network overflow performance report be prepared by the consent holder with support from a Mātauranga Māori expert. The amended consent conditions (Attachment 2) require a review to undertaken by the consent holder with support from a Mātauranga Māori expert on the state of priority receiving environments and other receiving environments using the Methodology for the Assessment of Effects of Wastewater Overflows set out in Attachment 3, cultural values assessments, and advice from Mana Whenua. It shall also be informed monitoring data including data from Mātauranga Māori monitoring.
18.		**Comment - Dry Weather Overflow Management Processes** There appears to be no management processes for dry weather overflows in proximity to SASMs.	Outside the scope of the application. Wellington Water to address separately.

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
		Recommendation – Develop management processes with Mana Whenua for dry weather overflows in proximity to SASMs.	
19.		**Comment - Giving Effect to NZCPS** Policy 11 and Policy 13 of the NZCPS related to the protection of indigenous biological diversity in the coastal environment and the preservation of natural character. How can Mana Whenua be involved here? They should be encouraged and provided to make assessments of the state of receiving environments and the adverse effects of discharges on indigenous biodiversity. **Recommendation** – Encourage and provide for Mana Whenua to make assessments of the state of receiving environments and the adverse effects of discharges on indigenous biodiversity and mahinga kai.	See item 17
20.		**Comment - Giving Effect to the Regional Policy Statement for Wellington** One of relevant key provisions in the RPS is 'Recognising and providing for matters of significance to tangata whenua'. But how will WWL achieve this specifically? There should be a plan/strategy to ensure matters of significance to tangata whenua are recognised and being provided for.	See items 4 and 7

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
21.		**<u>Comment - Taputeranga Marine Reserve</u>** This reserve could potentially be affected by the wastewater network overflows, and it contains a SASM. Therefore, Mana Whenua should be actively involved in any work concerning it. **Recommendation** – Actively involve Mana Whenua in the management and ongoing reduction of overflows into the Taputeranga Marine Reserve.	Will note this for the application for Wellington City
Draft Hutt WNO AEE Part2			
22. **Page 29.**	**Dry Weather Overflows** *"In order to better understand the current incidence of dry weather overflows, the following information was analysed for this project:* *HCC customer enquiry data for the seven-year period from January 2013 to December 2019. Customer enquiry data is recorded by HCC call centre operators when enquiries are made over the phone. Each enquiry contains problem specific information from the customer and is recorded against a date, site name, site*	**Comment** - Mana Whenua concerns should also be sought to inform if Community and Customer ones are.	Dry weather overflows now not included in the application. Wellington Water to address separately.

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
	code, enquiry type, water type, service name and enquiry description."		
23. **Page 35.**	**Dry Weather Overflows** *"A Standard overflow notification form is distributed to Greater Wellington Regional Council (GWRC), Regional Public Health (RPH), respective council's environmental health officers and internal groups within WWL by the Network Engineering Team for all known constructed wastewater overflows, and by the WWL Customer Operations Group for all uncontrolled wastewater overflows."*	**Comment** - Mana Whenua should also be given this information if they are not already, and the process should be documented. **Recommendation** – Include Mana Whenua on the list of entities that are informed of known constructed and uncontrolled wastewater overflows, and ensure the notification is process is timely and coordinated, giving them time for them to inform the response if necessary. Furthermore, insure they are informed of the proximity/effect (potential or otherwise) on SASMs from the waterflow.	Dry weather overflows now not included in the application. Wellington Water to address separately.
24. **Page 43.**	**Other Wastewater Contaminants** *"The risks associated with EOCs are higher in downstream depositional environments such as estuaries and sheltered harbours where contaminants become associated with particulates and may accumulate in marine sediments."*	**Comment** - These are often places that contain SASMs, and therefore more cultural monitoring will be required. If there in fact adverse effects in these locations, WWL should be making the effort to avoid, remedy or mitigate them to the fullest extent necessary. **Recommendation -** Ensure there is regular cultural monitoring, done by WWL via a mātauranga Māori	See item 2 above

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
		expert, in downstream depositional environments. Furthermore, Wellington Water needs to ensure they are attempting to avoid, mitigate or remedy adverse effects on these environments, particularly in proximity to SASMs.	
25. **Page 124.**	**Regional Policy Statement for Wellington Region** *"However, it is recognised that any discharge of fully treated, partially treated or untreated wastewater to natural streams, rivers and coastal water goes against the cultural position for Māori, and adversely impacts the mauri of the waterbody. To this end Objective 26 cannot be fully met while there is a continued discharge of wastewater to these water bodies. However, the proposal seeks to reduce these discharges overtime and to do so in manner that recognises the relationship of Māori to these taonga and which provides the opportunity for tangata whenua to exercise kaitiakitanga."*	**Comment** - How can Te Mahere Wai be captured here in a way that better responds to the clear direction mana whenua have set. How can the points in the CIA (May 2021) be incorporated to demonstrate the importance of these waterbodies as articulated by iwi? **Recommendation** – Include the Māori freshwater values outlined in Te Mahere Wai o Te Kāhui Taiao in the management of wastewater overflows.	An assessment of Te Mahere Wai will be included in the application If Mana Whenua prepares a monitoring plan this would incorporate Te Mahere Wai

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
26. **Page 124.**	**Proposed Natural Resources Plan** *"As above, it is recognised that any discharge of fully treated, partially treated or untreated wastewater to natural streams, rivers and coastal water goes against the cultural position for Māori, and adversely impacts the mauri of the waterbody. To this end Objective O3 cannot be fully met while there is a continued discharge of wastewater to these water bodies. However, the proposal seeks to reduce these discharges overtime and to do so in manner that recognises the relationship of Māori to these taonga and which provides the opportunity for mana whenua to exercise kaitiakitanga."*	**Comment** - On the 'opportunity for mana whenua to exercise kaitiakitanga' what further considerations can be proposed here? E.g. consideration of Te Mahere Wai or consideration of active management re NPSFM.	See items 4 and 7
27.		**<u>Comment - The Assessment of Effects of Wet Weather Overflows</u>** The assessment utilised several information sources but there appears to be little to no mention of Mana Whenua input. Te Mahere Wai is an important tool for freshwater management, that should be used and	The amended consent conditions (Attachment 2) require a review to undertaken by the consent holder with support from a Mātauranga Māori expert on the state of priority receiving environments and other receiving environments using the Methodology for the Assessment of Effects of Wastewater Overflows set out in

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
		referred to regularly when in partnership with Mana Whenua. **Recommendation** – Incorporate Te Mahere Wai o Te Kāhui Taiao and the Te Whaitua te Whanganui a Tara Implementation Programme in all aspects of the project.	Attachment 3, cultural values assessments, and advice from Mana Whenua. It shall also be informed monitoring data including data from Mātauranga Māori monitoring.
28.		**Comment - New Zealand Coastal Policy Statement** Objective 3 includes 'incorporating mātauranga Māori into sustainable management practices'. WWL have not explained how they are going to do this, but hiring a Mātauranga Māori expert would be appropriate. Policy 2(f)(ii) is about 'providing appropriate methods for the management, maintenance and protection of the taonga of tangata whenua'. WWL have not explained how they are going to do this, but development of a plan / programme / strategy about the management and protection of taonga in partnership with Mana Whenua would be appropriate. WWL claim, in this assessment, that the "cultural impact assessment has been prepared on behalf of Taranaki Whānui and Ngāti Toa" (Appendix D, p.143), however it appears that it's been done only on behalf of Taranaki Whānui. Taranaki Whānui and Ngāti Toa	See amendments in items 4 and 7 regarding Mātauranga Māori expert supporting the consent holder in developing the WNO Reduction Plan, Annual Plan and other references to the role of a Mātauranga Māori expert.

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
		views are not necessarily the same. A CIA by or on behalf of Ngāti Toa should also be developed. **Recommendation** – Employ a mātauranga Māori expert (or team if necessary) in monitoring, assessment, reporting and forecasting. Develop a plan/programme on the management and protection of taonga in partnership with Mana Whenua. Reach out and enable Ngāti Toa Rangatira to do a CIA of their own.	
29.		**<u>Comment - National Policy Statement for Freshwater Management</u>** In terms of giving effect to the six principles of Te Mana o Te Wai, WWL have identified the Wastewater Network Overflow Strategy, overseen by the Collaborative Committee, which will ensure that tangata whenua principles relating to mana whakahaere, kaitiakitanga and manaakitanga will inform the development of the network containment standard(s) and the prioritisation of improvement works. In this case, Mana Whenua (not just the Collaborative Committee) should have input / be actively involved in development of the Strategy and Standard(s) to ensure that Tangata Whenua principles are appropriately recognised.	See items 4 and 7

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
		In terms of Policy 2 about actively involving Tangata Whenua in freshwater management, WWL have identified the CIA, the Wastewater Network Collaborative Committee and the future Mana Whenua values Monitoring Plan as giving effect to this. But they have not explained how Māori freshwater values will be 'identified and provided for'. This needs to be outlined in the Strategy, Response Plan and Reduction Plan, with input and guidance from Mana Whenua.	
30.		**Comment - Operative Regional Policy Statement for the Wellington Region** WWL have not explained how they're going to ensure 'mahinga kai and natural resources used for customary purposes, are maintained and enhanced, and these resources are healthy and accessible to tangata whenua' (Objective 27), knowing there are risks to ecology and native species (some of which are endangered) at the discharge locations. There needs to be a plan/strategy developed with Mana Whenua and active measures in place to ensure mahinga kai and natural resources are healthy and accessible to Tangata Whenua.	See items 4 and 7
31.		**Comment - Regional Freshwater Plan** WWL admit that Objective 4.1.2, about protecting the mauri of waterbodies, "cannot be fully met while there is a continued discharge of wastewater to these	The pNRP is in effect operative so the applications will not address the Regional Freshwater Plan or the Regional Coastal Plan

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
		water bodies. However, through the proposed WNOS, the proposal seeks to reduce these discharges overtime and to do so in manner that: recognises the relationship of Māori to these taonga provides the opportunity for tangata whenua to exercise kaitiakitanga enables customary knowledge to be used to inform decision making on priorities." (Appendix D, p.175) Therefore, Mana Whenua must be actively involved in preparing the WNOS. WWL do not explain how they're going to meet Objective 5.1.3 'The quality of water is, as far as practicable, consistent with the values of the tangata whenua', but that likely falls under their inability to ensure the mauri of the waterbodies is protected. Tangata Whenua values must be outlined in all relevant plans and strategies. WWL has also not explained how they're going to meet Policy 4.2.1. about managing sites of special value to Tangata Whenua in waterbodies so that the cultural values of those sites are not affected. There should be a plan/strategy for this, developed with Mana Whenua.	
32.		**<u>Comment - Proposed Natural Resources Plan</u>**	See items 4 and 7

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
		In terms of Policy 10, about avoiding, remedying or mitigating any adverse effects on contact recreation and Māori customary use in fresh and coastal water, WLL have found that their proposal to reduce the frequency of the discharges overtime is generally consistent with this policy. However, they've not explained how Māori customary use will be ensured continually, overtime. Nor have they explained how they will meet Objective 14, which includes: • Maintaining and improving opportunities for Māori customary use of the coastal marine area, rivers, lakes and their margins and natural wetlands. • Maintaining and improving the availability of mahinga kai species, in terms of quantity, quality and diversity, to support Māori customary harvest, and • Providing for the relationship of mana whenua with Ngā Taonga Nui a Kiwa. • Protecting sites with significant mana whenua values from use and development that will adversely affect their values and restoring those sites to a state where their characteristics and qualities sustain the identified values. There needs to be a plan/strategy(s) to guide the management, maintenance, and protection of	

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
		Tangata Whenua natural resources, mahinga kai and SASMs, with measures to achieve this, as well as objectives to improve the quality/availability of resources. WWL have also not addressed Policy 18(d) 'working with mana whenua, landowners, and other interested parties as appropriate, to develop and implement restoration initiatives within Ngā Taonga Nui a Kiwa'. WWL should develop a restoration scheme and initiatives in partnership with Mana Whenua.	
Key Recommendations			
1.	Enable and provide for Mana Whenua to actively participate in all levels of the project, not just as members of the Collaborative Committee (e.g. hiring mātauranga Māori experts, cultural specialists, etc.). Mana Whenua, and not just the Collaborative Committee, should have input / be actively involved in the development of the WNORP and Containment Standards, which will likely require regular engagement with whānau and hapū (i.e. workshops) and the development of multiple CIAs. Mana Whenua should also be provided with the education, training and resources to participate in freshwater management and make informed decisions, which will require funding. Furthermore, WWL should develop a plan/strategy in the instance that Mana Whenua either do not have capacity to provide equal representatives on the Collaborative Committee that ensures partnership remains equal (e.g. giving Mana Whenua 50% of the voting rights even if their numbers do not equal 50%) or do not wish to participate in the Collaborative Committee at all (e.g. engaging with Mana Whenua about how they would like partnership to proceed).		See items 4 and 7
2.	To develop an all-encompassing iwi monitoring strategy with Mana Whenua, as suggested by the Cultural Impact Assessment (CIA) for Port Nicholson Block Settlement Trust & Wellington Tenths Trust, Te Atiawa-Taranaki Whānui on the Hutt Valley Wastewater		See item 2

Reference / Pg #	Text	Comments and Recommendations	WWL Amendments to Applications July 2022
	Overflows Re-Consenting Te Awa Kairangi/Hutt & the Wainuiomata Rivers and their tributaries (May 2021). This strategy would cover the main rivers and some streams at key points and be on all matters (environmental, ecological, etc. not just what's deemed cultural), and should include a cultural health index or indicators based on indigenous resources, (e.g. fish populations such as tuna / long finned eel, inanga, piharau / lamprey, and kokopu.) The strategy would need to be developed in close partnership with Mana Whenua and be integrated with all monitoring requirements under the various WWL held resource consents.		
3.	To make partnership with Mana Whenua a priority and develop measures to achieve it. The priorities and objectives for this project should be revised and developed in partnership with Mana Whenua.		Included two additional objectives c. Co-management between Mana Whenua and the applicant / consent holder of the planning and implementation of the resource consents for the wastewater network overflows. d. Priority shall be given to the removal of wastewater overflows from Mana Whenua sites of significance.
4.	To give priority to all the sites listed in the CIA, including any in the CIA of Ngāti Toa Rangatira. This would entail reaching out and enabling Ngāti Toa Rangatira to do a CIA of their own.		See item 1

APPENDIX 4 DRAFT RESOURCE CONSENT CONDITIONS WET WEATHER WASTEWATER OVERFLOWS

Draft Resource Consent Conditions Wet Weather Wastewater Overflows

Definitions

Calibration: The adjustment of model hydrological and hydraulic parameters to represent observed wastewater flows and levels for selected dry and wet weather periods. The observed calibration data is usually of high quality and has been captured at a sufficient resolution, both temporally and spatially, to enable a representative calibration to be completed. Typically, the observed data is captured over a 3 to 12 month period and should record a range of wet weather events and sufficient dry weather periods to enable a representative model calibration to be completed.

Constructed Overflow: A discharge from a constructed overflow point.

Constructed Overflow Point means a structure from which wastewater is discharged as a result of a wet weather overflow in the wastewater network, typically a weir or pipe set at a designated height, to provide a controlled discharge from the wastewater network into water or to land or into the stormwater network.

Containment Standard: A targeted frequency of wet weather overflow events, to be achieved over time under this consent, expressed as the number of times per year(s) that a wet weather overflow event occurs at each discharge location, and measured based on average annual weather conditions as simulated by a computer model that is calibrated and verified periodically (which may differ from the actual number of times that overflows occur at a discharge location in a given year).

Dry Weather Flow: The flow in the wastewater network that would occur during a normal day in a dry weather period, including wastewater, trade waste and groundwater infiltration.

Existing Discharge Resulting from Wet Weather Overflows: Existing wastewater discharges resulting from wet weather overflows from the wastewater network previously authorised by resource consents or that have occurred prior to 31 October 2020.

Existing Wastewater Discharge: Wastewater discharged into fresh or coastal water from a wastewater treatment plant or a wastewater network that is:

a. already authorised by an existing resource consent at the time of application for a new resource consent (the replacement resource consent application may seek a different quality, and/or quantity, and/or discharge location within the same or a downstream waterbody), and / or
b. a heavy rainfall event overflows from a wastewater network that has occurred prior to 31 October 2020.[1]

Frequency of Wet Weather Overflows: A calculated annual average frequency i.e. the average number of wet weather overflow events in a calendar year assessed in terms of the methodology in Attachment 3 Step 1.

Habitable Dwelling: A building, combination of buildings or unit within a building that is/are used or designed to be used as a single household residence and:

a. is a self-contained unit;
b. includes kitchen and bathroom facilities.

Model Update: The update of the model to reflect the current state of network and catchment arrangement. This update could include developing model representations of recently completed projects and operational changes, or other changes to reflect updated information about the network. These updates can occur either in isolation or in combination of calibration and verification activities. Often the model update process will be followed by model validation.

Private Property: Property owned by private parties and is not property owned by the Crown or local authorities.

[1] This is the definition from the Proposed Natural Resource Plan

The Manager: The Manager, Environmental Regulation, Greater Wellington Regional Council.

Validation: The process of assessing model reliability by reviewing performance over a longer period to that of the calibration observed data period. The validation dataset is usually sourced from a variety of data sources for example long term monitor records, pump station operational records, reported incidents and call outs. Ideally this dataset would cover several years, with a five-year horizon likely to be a practical upper limit due to catchment changes and data quality. This dataset can be of lower resolution than the calibration dataset, with the emphasis being on summarising the recorded frequency and scale of wastewater network spills including both constructed and uncontrolled overflows. Typically, the focus of model validation is developing confidence in the model to represent frequency of wastewater network overflows over an extended period.

Verification: The process of comparing the calibrated model performance with the observed data. It excludes events that the model has been calibrated against. Its purpose is to demonstrate the representativeness of the calibration.

Wastewater Network Catchment: The Hutt Valley and Wainuiomata Catchments the extent of which are shown on the map in Attachment 1 of the proposed consent conditions.

Wet Weather Flow: The flow within a wastewater network that is greater than the Dry Weather Flow, and which occurs as a result of rainfall (directly or indirectly) entering the network.

Wet Weather Overflow: A wastewater overflow during times of Wet Weather Flow.

Wet Weather Overflow Event: One or more wet weather overflows within the wastewater network catchment that end(s) when all overflows have ceased discharging for more than 24 hours. Where the overflow(s) stop(s) and then recommence(s) within 24 hours as a result of a single continuous or intermittent rainfall event, it is considered a single wet weather overflow event. Any overflow that occurs for more than 5 days is treated as a new event.

Zero Overflow Aspirations: The aspirations of Mana Whenua as represented in Te Mahere Wai te Kāhui Taiao to remove all direct discharges of wastewater to freshwater and of the Whaitua Te Whanganui-a-Tara Committee for overflows to be completely removed unless in emergencies.

Activities authorised by this consent:

a. Existing wastewater discharges resulting from wet weather overflows from the wastewater network to freshwater, coastal water, or to land where the discharge may enter freshwater or coastal water. (Discharge Permit and Coastal Permit).

b. Existing wastewater discharges resulting from wet weather overflows from the wastewater network to the stormwater network and subsequently to freshwater, coastal water, or to land where the discharge may enter freshwater or coastal water. (Discharge Permit and Coastal Permit).

Note: A map of the Hutt Valley and Wainuiomata wastewater network that existed on 31 October 2020 is contained in Attachment 1

Note: A map of the Hutt Valley and Wainuiomata wastewater network sub-catchments is contained in Attachment 1

Term of consent

The term of the consent shall be 35 years from the date of the commencement of the consent

Conditions

The consent shall be subject to the following conditions

Condition	Comments
Documentation	
1. The consents shall be exercised in general accordance with the following documents: a. Attachment 2: Methodology for Developing the Wastewater Network Overflow Strategic Reduction Plan b. Attachment 3: Methodology for Setting the Containment Standard c. Attachment 4: Methodology for Developing the Wastewater Network Overflow Sub-catchment Reduction Plans d. Methodology for the Assessment of Effects of Wet Weather Wastewater Overflows December 2020 e. Wellington Water Wastewater Overflow Response Plan October 2021 and subsequent reviews certified by the Manager f. Wellington Water Regional Wastewater Model Specification June 2020 and subsequent reviews. In the event of any inconsistencies between the documents listed and the conditions of the consent, these conditions shall prevail.	
Wastewater Network Overflow Objectives	
2. The consent holder shall achieve the following wastewater network overflow objectives for wet weather overflows over the term of the consent: a. The frequency of wet weather overflow events is progressively reduced. b. Partnerships are developed with Mana Whenua for the oversight, planning and implementation of the resource consent for wet weather overflows. c. The reduction of wet weather overflows is prioritised in sub-catchments where the overflows are having an adverse effect on Mana Whenua sites of significance. d. Wet Weather Overflows caused by issues in the public network do not enter habitable dwellings or private property.	
Certification Process	
3. The consent holder shall submit the Wastewater Network Overflow Strategic Reduction Plan (Strategic Reduction Plan) required under condition 12 to the Manager for certification that: a. The Strategic Reduction Plan has been prepared in accordance with Attachment 2 to this consent b. The containment standard has been determined in accordance with Attachment 3 to this consent c. The Strategic Reduction Plan has taken into account any comments provided by Regional Public Health as required under condition 34.	

Condition	Comments
4. The consent holder shall submit updates to the Strategic Reduction Plan required under condition 12 to the Manager for certification that: a. The updates to the Strategic Reduction Plan have been undertaken in accordance with Attachment 2 to this consent b. The updates have taken into account any comments provided by Regional Public Health as required under condition 34.	
5. The consent holder may elect to submit the different components of the Strategic Reduction Plan for certification individually, in which case the requirements of conditions 3 and 4 will apply to the extent that the information listed is necessary to enable the Manager to understand the material being submitted for certification.	
6. Upon certification by the Manager of the Strategic Reduction Plan, the consent holder shall commence to submit at least one Sub-catchment Reduction Plan on average every two years to the Manager for certification and shall have submitted all 16 Sub-catchment Reduction Plans for the Hutt and Wainuiomata Wastewater Network Catchment by the 28th anniversary of the granting of the consent. The order and timeline for submitting the Sub-catchment Reduction Plans shall be set out in the Strategic Reduction Plan.	
7. The consent holder shall submit each Sub-catchment Reduction Plan required under condition 17 to the Manager for certification that it has been prepared in accordance with Attachment 4 to this consent.	
8. The consent holder shall submit any changes to a certified Wastewater Network Overflow Sub-catchment Reduction Plan (Sub-catchment Reduction Plan), to the Manager for certification that the changes to the Strategic Reduction Plan have or will achieve the same or similar outcomes to the outcomes intended to be achieved by the certified Sub-catchment Reduction Plan.	
9. The consent holder shall submit the Mātauranga Māori Monitoring Plan required by condition XX to the Manager for certification that the Plan has been prepared: a. In accordance with the Regional Kaitiaki Information and Monitoring Strategy b. In conjunction with Mana Whenua.	This is a placeholder condition. Monitoring matters need to be worked through with Mana Whenua and GW See further comments under monitoring heading
10. The consent holder shall submit the three yearly reviews of the Wastewater Overflow Response Plan required by condition 43 to the Manager for certification that: a. The response procedures are in accordance with good management practices and will achieve effective responses to wet weather wastewater overflow events b. The roles and responsibilities of organisations and people required to respond to wet weather wastewater overflow events are clearly defined	

Condition	Comments
c. The Plan will effectively manage actual or potential risks and acute effects on human health associated with wet weather wastewater overflows d. The communications plan and signage will effectively communicate information about wet weather wastewater overflows to different sectors and groups in the community e. The review has taken into account any comments provided by Regional Public Health as required under condition 34.	
11. If the consent holder has not received notice of certification within two months of a plan or any reviews or updates to a plan being submitted for certification by the Manager, the consent holder may consider that the plan or any reviews or updates is deemed to be certified.	
Strategic Reduction Plan	
12. The consent holder shall, with support from a Mātauranga Māori expert or other party agreed to by Taranaki Whānui and oversight from the Wastewater Network Collaborative Committee (Collaborative Committee), if established under condition 26, prepare and implement a Strategic Reduction Plan. The Strategic Reduction Plan shall be updated at six yearly intervals.	
13. The Strategic Reduction Plan and subsequent updates shall address the matters set out in Attachment 2 to this consent. The purpose of the Strategic Reduction Plan is to develop mechanisms and recommend initiatives that in conjunction with the implementation of the Sub-catchment Reduction Plans will ensure the wastewater network overflow objectives and the containment standard are achieved over the term of the consent.	
14. The consent holder shall manage wet weather overflows from the wastewater network in accordance with the Strategic Reduction Plan.	
15. The consent holder shall submit the Strategic Reduction Plan for certification by the Manager by XXXX and submit updates of Strategic Reduction Plan for certification at no more than six yearly intervals for the duration of the consent.	Date for submitting the Strategic Reduction Plan has yet to be determined.
16. The containment standard which forms part of the Strategic Reduction Plan must be developed in accordance with the methodology in Attachment 3.	
Sub-catchment Reduction Plans	
17. The consent holder shall, with support from a Mātauranga Māori expert or other party agreed to by Taranaki Whānui and oversight from the Collaborative Committee, if established under condition 26, prepare and implement a Sub-catchment Reduction Plan for each of the sub-catchments shown in Attachment 1 to this consent and as prioritised in the Strategic Reduction Plan and any subsequent updates.	
18. The consent holder shall submit the Sub-catchment Reduction Plans for certification by the Manager in the order set and in accordance (or earlier) with the timeframes set out in the certified Strategic Reduction Plan and any subsequent updates.	

Condition	Comments
19. Each Sub-catchment Reduction Plan shall address the matters set out in Attachment 4 to this consent. The purpose of each Sub-catchment Reduction Plan is to develop a programme of wastewater network overflow improvement works to ensure the wastewater network overflow objectives and the containment standard are achieved for that sub-catchment.	
20. The consent holder shall in each sub-catchment manage wet weather wastewater overflows from the wastewater network and undertake improvement works and initiatives in accordance with the relevant certified Sub-catchment Reduction Plan.	
21. The consent holder may make changes to a certified Sub-catchment Reduction Plan, the changes must have or will achieve the same or similar outcomes to the outcomes intended to be achieved by the certified Sub-catchment Reduction Plan.	
Targeted short-term measures	
22. Within 12 months of the commencement of this consent, the consent holder shall as a matter of urgency investigate overflows to Black Creek that are known to discharge more than ten times per year on average to determine whether there are any short-term measures available to manage conspicuous oil or grease films, scum or foam, or floatable or suspended materials, or effects on aquatic ecology at the point of discharge to the environment.	
23. The consent holder shall provide to the Collaborative Committee if established under condition 26 a. The outcomes of the investigation b. Any proposed short-term measures to assist in addressing the effects of the overflows and a programme for the delivery of the measures.	
24. The consent holder shall seek and adopt any recommendations of the Collaborative Committee regarding the short-terms measures to be undertaken and the delivery programme for these measures.	
25. Details of the proposed short-term measures and delivery programme shall be provided to the Manager prior to the commencement of any works.	
Partnership with Mana Whenua	
26. Within three months of this consent commencing the consent holder shall: a. Invite Mana Whenua to join a Collaborative Committee. b. If this invitation is accepted, establish the Collaborative Committee that has equal number of representatives from Mana Whenua and from the consent holder (HCC, UHCC, WWL). c. The terms of reference for the Collaborative Committee will be determined by its members.	A "Plan B" condition if the Collaborative Committee is not established has yet to be developed.

Condition	Comments
d. If the invitation is not accepted, the consent holder shall reissue the invitation in 12 months. The invitation shall remain open throughout the term of the consent and shall be reissued every 12 months. e. If the invitation is declined or not accepted within XX months of the granting of the consent the consent holder shall initiate "Plan B" f. If the Collaborative Committee is not established, the requirements in these conditions that refer to Collaborative Committee shall be replaced by "Plan B".	
27. The consent holder shall invite the Manager to nominate a representative from Greater Wellington Regional Council and shall invite Regional Public Health to nominate a representative to join the Collaborative Committee as observers.	
28. The overall purpose of the Collaborative Committee is to provide strategic direction to the consent holder to achieve the wastewater network overflow objectives and the containment standard over the term of the consent.	
29. The functions of the Collaborative Committee in relation to wet weather overflows shall include: a. Overseeing the preparation of the Strategic Reduction Plan and subsequent updates b. Overseeing the preparation of the Sub-catchment Reduction Plans c. Overseeing the preparation of the Mātauranga Māori Monitoring Plan required under condition XX d. Reviewing the Annual Report required under condition 37 e. Making recommendations on the short-terms measures to be undertaken and the delivery programme for these measures to assist in addressing the effects of the wastewater overflows on Black Creek required under condition 22 f. Making recommendations on the option to be investigated to achieve or contribute to achieving Zero Overflow Aspirations g. Making recommendations on the sequencing of the installation of overflow monitoring devices at pump station constructed overflows required to be installed under condition 40 of this consent h. Overseeing the preparation, updating, and implementation of the community engagement plan.	Condition relating to the Mātauranga Māori Monitoring Plan has yet to be developed – see discussion under Monitoring heading.
30. The responsibilities of the Collaborative Committee in overseeing the preparation of the Strategic Reduction Plan shall include: a. Recommending to the consent holder the containment standard for wet weather overflows in the Hutt and Wainuiomata Wastewater Network Catchment	

Condition	Comments
b. Recommending to the consent holder the prioritised sub-catchments for the preparation of Sub-catchment Reduction Plans c. Recommending to the consent holder Global Initiatives for funding and implementation d. Considering options identified by the consent holder of different types of wastewater systems that potentially could achieve or contribute to achieving Zero Overflow Aspirations and recommending to the consent holder which option should be further investigated.	
31. The responsibilities of the Collaborative Committee in overseeing the updates to the Strategic Reduction Plan shall include: a. Recommending to the consent holder any changes in order or additions to prioritised sub-catchments b. Recommending to the consent holder any changes or additions the Global Initiatives c. If the option investigated by the consent holder for achieving or contributing to achieving Zero Overflow Aspirations is not feasible, recommending to the consent holder another option to be investigated.	
32. The responsibilities of the Collaborative Committee in overseeing the preparation of the Sub-catchment Reduction Plans shall include: a. Recommending changes or additions to a Sub-catchment Reduction Plan to ensure the containment standard will be met and the wastewater network overflow objectives are achieved for the relevant the sub-catchment.	
33. In relation to the Collaborative Committee, the consent holder shall: a. Convene, host and record the minutes of the Collaborative Committee meetings, to be held no fewer than XXX times per year b. Provide a secretariat c. Provide minutes of the Collaborative Committee meetings to the Greater Wellington Regional Council d. Support the Collaborative Committee by providing it with access to technical advice necessary to fulfil its functions and responsibilities set out in conditions 29, 30, 31and 32 e. Adopt the recommendations from the Collaborative Committee that are made in accordance with conditions 30a, 30b, 30c, 30d, 31a, 31b, 31c and 32.	The number of times a year the Collaborative Committee will meet has yet to be determined.
Regional Public Health	
34. Prior to submitting the Strategic Reduction Plan, subsequent updates or a review of the Wastewater Overflow Response Plan, to the Manager for certification, the consent holder shall invite Regional Public Health to:	

Condition	Comments
a. Review and provide comments on the public health components of the process followed for determining the prioritised sub-catchments as set out in Attachment 2 to this consent b. Review and provide comments on the public health components of the process followed for setting containment standard as set out in Attachment 3 to this consent c. Review and provide comments on the public health components of the process followed for updating the Strategic Reduction Plan as set out in Attachment 2 to this consent d. Review and provide comment on reviews of the Wastewater Overflow Response Plan.	
35. The consent holder shall request Regional Public Health to provide any review comments within 20 working days of receipt of the documents from the consent holder.	
36. The consent holder will include any review comments received from Regional Public Health on matters set out in condition 34a, 34b and 34c with the Strategic Reduction Plan and updates provided to the Manager for certification as required under condition 3, and any review comments received from Regional Public Health on the Wastewater Overflow Response Plan provided to the Manager for certification as required under condition 10.	
Reporting	
37. The consent holder shall prepare an annual report and provide this to the Manager within three months of each anniversary of the commencement of the consent. Prior to providing each annual report to the Manager, the consent holder shall invite the Collaborative Committee to review the report. Each annual report shall include: a. An update on the progress made in preparing and implementing the Sub-catchment Reduction Plans including: i. The prioritised sub-catchments and the date each sub-catchment was prioritised ii. The sub-catchments that have yet to be prioritised iii. The sub-catchments that have achieved the containment standard iv. Investment to date and forecasted investment in each sub-catchment v. Community engagement activities and education programmes b. An update on the implementation of Global Initiatives c. Results of the investigations of the Zero Overflow Aspiration option d. Model updates and outcomes at a wastewater network catchment and a sub-catchment level (if any), including network performance reporting if undertaken during the annual report period e. Record of model calibration and peer reviews (if any) f. Results of monitoring undertaken in accordance with conditions XXX g. Minutes of all Collaborative Committee meetings held during the annual report period h. An update on progress implementing the targeted short-term measures required under conditions 22 to 25 i. Communication and engagement milestones in the annual report period.	Monitoring conditions have yet to be developed – see discussion under Monitoring heading.

Condition	Comments
38. Every three years in the annual report cycle the consent holder shall invite: a. The Chair of the Collaborative Committee b. Collaborative Committee mana whenua members c. Collaborative Committee consent holder members to provide reports (if they wish) for inclusion in the annual report on the progress that has been made over the previous three years toward achieving the wastewater network overflow objectives.	
Notification and reporting of overflows	
39. Within 24 hours of a wet weather overflow commencing or as soon as practicable, the consent holder shall notify the Manager, the Medical Officer of Health (Regional Public Health), and Mana Whenua of the overflow. The notification shall include the following details: a. Type of overflow discharge b. Location(s) of the overflow discharge including the location of the discharge in relation to any site of significance to Mana Whenua c. Sub-catchment d. Start date and time where available e. Contact details of the person reporting the notification.	
40. Within 48 hours of a wet weather overflow event at a constructed overflow point ceasing, the consent holder shall provide an overflow report to the Manager, the Medical Officer of Health (Regional Public Health), Hutt City Council and Upper Hutt City Council and Mana Whenua of the overflow. The overflow report shall include the following details, where available: a. Type of overflow discharge b. Location of the overflow discharge c. Sub-catchment d. Start date and time e. End date and time f. Duration (hours) g. Maximum flow (litres/second) h. Mean flow (litres per second) i. Approximate volume (m^3) where available j. Cause of discharge k. Rainfall in the last 24 hours l. Weather conditions at the time of discharge	

Condition	Comments
m. Any direct contact between the overflow discharge and: I. Human food sources (shellfish, watercress, puha etc.) II. Drinking water supply sources III. Recreation activities IV. Mana Whenua sites of significance n. Action taken (including erection of signs, notification of potentially effected persons and general public, clean up actions, sampling, future monitoring instigated) o. Contact details of the person reporting the notification.	
Monitoring	
Conditions relating to mātauranga Māori monitoring will be added once agreed with mana whenua.	Approach to mātauranga Māori monitoring has yet to be determined. This will be developed with Mana Whenua and GWRC but is intended to supplement the Regional Kaitiaki Framework as necessary for wastewater network overflows rather than duplicating or replacing it.
Conditions relating to integrated stormwater and wastewater receiving environment monitoring will be developed prior to the hearing and once further consideration has been given to the monitoring needs under the stage 2 stormwater consent.	
41. The consent holder shall: a. Over the duration of the consent, install additional overflow monitoring devices at overflow points that discharge at least once per year on average b. Seek and adopt recommendations from the Collaborative Committee on the sequencing of the installation of the devices c. Where monitoring devices are installed, monitor and record the start time, stop time and duration, of any overflows during both wet and dry conditions.	
Engagement	
Conditions relating to engagement have yet to be developed. They will include a requirement for the development of a community engagement plan and conditions relating to establishing a community group with a global focus and sub-catchment engagement.	
Wastewater Overflow Response Plan	
42. The consent holder shall respond to wet weather overflows from the wastewater network in accordance with Wastewater Overflow Response Plan.	
43. The consent holder will undertake three yearly reviews of the Wastewater Overflow Response Plan. The matters to be addressed shall include:	

Condition	Comments
a. A review of the response procedures to ensure they are in accordance with good management practice and achieve effective responses to wet weather wastewater overflow events b. A review the roles and responsibilities of organisations and people required to respond to wastewater overflow events to ensure they are clearly defined c. Review the effectiveness of the communications plan and signage in communicating information about overflows to different sectors and groups in the community.	
44. Following the receipt of any comments from Regional Public Health required under condition 34c. on the review of the Wastewater Overflow Response Plan, the consent holder shall update the Plan in response to any comments from Regional Public Health. The updated Plan shall be provided to the Collaborative Committee for information and the Manager for certification as required under condition 10.	
Complaints	
45. The consent holder shall keep a record of any complaints received relating to the exercise of the consent. The record shall contain the following details, where practicable: a. Name and address of complainant b. Identification of the nature of the complaint c. Date and time of the complaint and of the alleged event d. Weather conditions at the time of the complaint e. Any measures taken to address the cause of the complaint.	
46. The consent holder shall notify the Manager of any complaints relating to the exercise of this consent, within 24 hours of being received by the consent holder or the next working day.	
Network Model	
47. The consent holder shall have a calibrated computer network model which will be used to: a. Estimate the annual average number of wet weather overflow events from constructed overflow points and, where practicable, uncontrolled wet weather discharge locations. b. Determine compliance with the containment standard within a sub-catchment once the Sub-catchment Reduction Plan has been fully implemented. c. Determine compliance with the containment standard across the Hutt and Wainuiomata Wastewater Network Catchment at the end of the consent term.	
48. The network model shall use a long-term (at least 12 years) time series methodology to assess current network performance against representative rainfall records. *Advice note: 'Representative' rainfall records refer to a period of time excluding extreme rainfall events. The period of time would be reassessed every 10 years by the consent holder, in consultation with the peer reviewer.*	

Condition	Comments
Advice note: The current system performance is based on annual average year of rainfall rather than actual rainfall.	
49. The network model shall be updated on a regular basis, with a calibration occurring at least every 12 years, in accordance with the most recent version of the Wellington Water Wastewater Regional Modelling Specifications.	
50. An independent peer review following the calibration of the model shall be undertaken by a suitably qualified person agreed by the consent holder and the Manager. The purpose of the peer review is to: a. Ensure the calibration of the model has been undertaken in accordance with the most recent version of the Wellington Water Wastewater Regional Modelling Specifications. b. Ensure the model is representative, and will deliver the requirements specified in condition 47 c. Recommend any improvements to the model *Advice note: It is intended that the peer review is a collaborative process between the peer reviewer and the consent holder.*	
51. The independent peer reviewer shall be invited to provide feedback to the consent holder on any or all of the following steps of the model calibration process: a. Model Build/Update b. Gauging c. Calibration and Verification d. Validation e. Future Scenarios and System Performance f. Optioneering and Costing g. Development of the Strategic Reduction Plan.	
52. The independent peer review (together with the consent holder's response, if applicable) will be provided to the Manager for information.	
Surrendering of current consents	
53. Upon the granting of these consents, the consent holder shall surrender the following consents: a. Malone Road Consent No. WGN090321 [32525] b. Hinemoa Street Consent No. WGN090321 [32526] c. Wainuiomata Pump Station Storage Tank Consent No. WGN110494 [31241].	Malone Road and Hinemoa Street expire 12 April 2025 and Silverstream PS Storage Tank expires 19 December 2029
Review of conditions	

Condition	Comments
54. Wellington Regional Council may review any or all conditions of this consent by giving notice of its intention to do so pursuant to section 128 of the Resource Management Act 1991, in the six months following the XX, and XX anniversary of the commencement of this consent for any of the following reasons: a. To review the adequacy of, and if necessary, amend the monitoring requirements outlined in this consent. b. To review the effectiveness of the conditions in avoiding, remedying or mitigating any adverse effects of the consent holder's activities and, if considered appropriate by Wellington Regional Council, deal with such effects by way of further or amended conditions. c. To align the conditions and enable consistency with any relevant operative regional plans, National Environmental Standards, regulations or Acts of Parliament. The review of conditions shall allow for the deletion or amendment of conditions of this consent; and the addition of such new conditions as necessary to avoid, remedy or mitigate any significant adverse effects on the environment.	Review timing to be determined with GW.

Attachment 1: Hutt Valley and Wainuiomata Wastewater Network and Sub-catchments

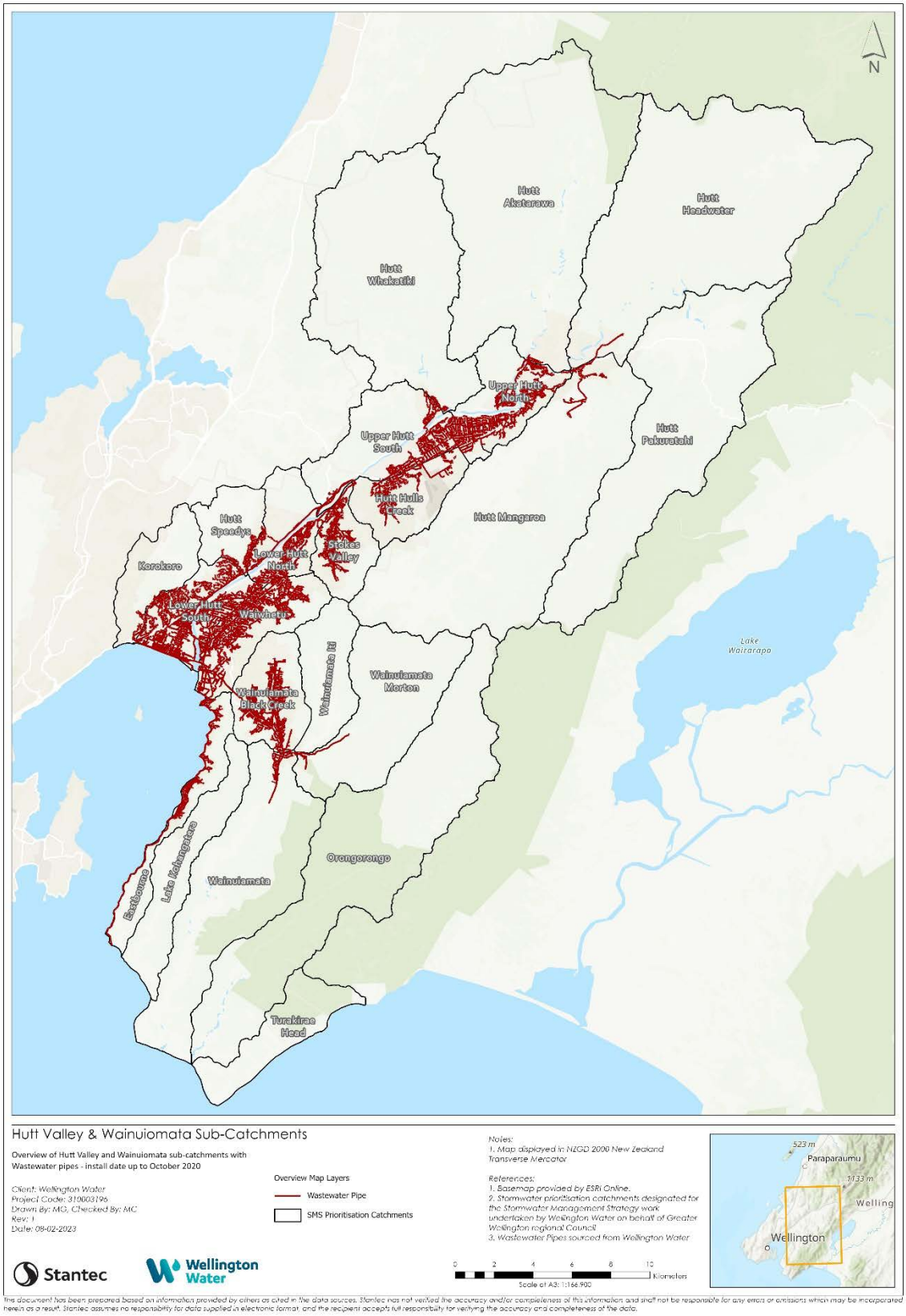

Figure 1: Hutt Valley and Wainuiomata Wastewater Network existing on 31 October 2020

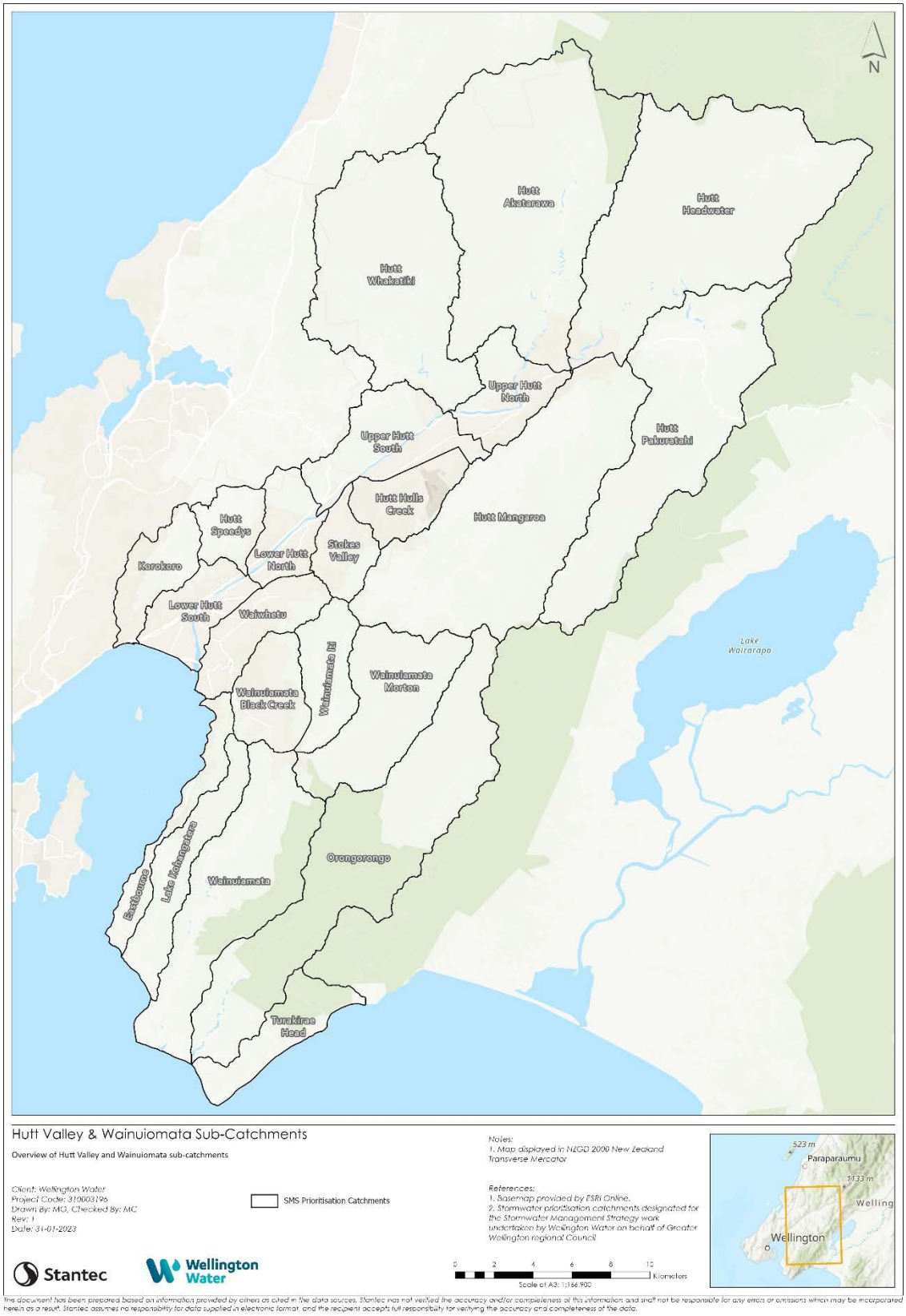

Figure 2: Hutt Valley and Wainuiomata Wastewater Network Sub-catchments

Attachment 2: Methodology for Developing the Strategic Reduction Plan

Methodology

The Strategic Reduction Plan applies to the Hutt and Wainuiomata Wastewater Networks as at 31 October 2020 as shown on the maps in Attachment 2 to this consent.

The purpose of the Strategic Reduction Plan is to develop mechanisms and recommend initiatives that in conjunction with the implementation of the Sub-catchment Reduction Plans will ensure the wastewater network overflow objectives and the containment standard are achieved over the term of the consent.

The key components of the Strategic Reduction Plan are:

1. The wastewater network containment standard for wet weather overflows which is to be achieved over the term of the consent.
2. Prioritised sub-catchments for the development and implementation of Sub-catchment Reduction Plans.
3. Recommended global initiatives for progressive achievement of the overflow objectives and containment standard to be implemented by the consent holder.
4. Recommended option for investigation by the consent holder to determine if the option is feasible for achieving or contributing to achieving the Zero Overflow Aspirations.
5. Timeline for the submission and implementation of Sub-catchment Reduction Plans.

The Strategic Reduction Plan shall include Global Initiatives for consideration in the long term plan process. Global Initiatives may include regulation, policy, and education programmes.

The Strategic Reduction Plan shall be updated at six yearly intervals. It can also be updated at any point at the request of the Collaborative Committee to prioritise an additional sub-catchment.

The Strategic Reduction Plan can be combined with Reduction Plans for other wastewater network catchments in Wellington and Porirua and with the Stormwater Management Strategy for Wellington, Upper Hutt, Hutt City and Porirua if requested by the Collaborative Committee to enable effective and integrated implementation.

Strategic Reduction Plan

The key components of the Strategic Reduction Plan shall be developed as follows:

a) **Prioritised sub-catchments** – To inform the setting of sub-catchments to be prioritised the Collaborative Committee shall consider:

   i. Section 4 of the Wet Weather Overflows from the Hutt Valley and Wainuiomata Wastewater Networks: Application for Resource Consents and Assessment of Environmental Effects, Part 2 Report.

   ii. Cultural Impact Report: Hutt Valley Wastewater Overflows Consenting Te Awa Kairangi / Hutt & the Wainuiomata Rivers and their tributaries, Raukura Consultants.

   iii. Wastewater Network Overflow Objective c. - The reduction of wet weather overflows is prioritised in sub-catchments where the overflows are having an adverse effect on Mana Whenua sites of significance.

   iv. Modelling updates.

   v. Investment opportunities.

   vi. Sequencing to ensure that the containment standard is achieved in all sub-catchments by the expiry of the consent.

   vii. Feedback from engagement on the preparation of the Strategic Reduction Plan from the global engagement group, the consent holders, asset owners, asset investors and mana whenua.

Methodology

viii. Works that will benefit more than one sub-catchment

ix. Programmed and funded wastewater and stormwater network improvement works and initiatives, including wastewater treatment plant capacity upgrades, or timing and development of stormwater catchment management plans.

x. Growth locations.

xi. Schedules C, F and H of the Natural Resources Plan.

xii. Other information considered relevant by the consent holder.

The Collaborative Committee shall recommend the prioritised sub-catchments. The consent holder shall adopt the recommendation of the Collaborative Committee.

b) **Wastewater network containment standard for wet weather overflows** – The containment standard for the Hutt and Wainuiomata Wastewater Network Catchment for wet weather overflows shall be developed by the consent holder with support from a Mātauranga Māori expert or other party agreed to by Taranaki Whānui and oversight from the Collaborative Committee using the Methodology for Setting the Containment Standard set out in Attachment 3. The Collaborative Committee shall recommend the containment standard for the Wastewater Network Catchment. The consent holder shall adopt the containment standard recommended by the Collaborative Committee.

The containment standard shall be supported by documentation that summarises the process followed in developing the standard. The documentation shall be used to support the Regional Council certification process and the recommendations from the Collaborative Committee to the consent holder on what the standard should be.

c) **Global Initiatives** – These initiatives are to contribute to the achievement of the containment standard and the wastewater network overflow objectives across the wastewater network catchment. The initiatives shall be developed by the consent holder with support from a Mātauranga Māori expert or other party agreed to by Taranaki Whānui and oversight from the Collaborative Committee. The initiatives may include global improvement works, regulation, policies, and education programmes.

The Collaborative Committee shall recommend the Global Initiatives for funding and implementation. The consent holder shall adopt the recommendation.

d) **Initiatives for achieving Zero Overflow Aspirations** – The consent holder with support from a Mātauranga Māori expert or other party agreed to by Taranaki Whānui shall put forward a list of options for the consideration of the Collaborative Committee. Each option must represent a different type of wastewater system that potentially could achieve or contribute to achieving the Zero Overflow Aspirations. The Collaborative Committee shall consider the options and recommend to the consent holder the option to be investigated.

e) **Timeline for the submission of Sub-catchment Reduction Plans** - Based on the prioritised sub-catchments required under a) above the consent holder shall set out the order for the submission of the Sub-catchment Reduction Plans to the Manager for certification and a timeline for the submission of the plans to ensure the requirements of condition 6 are met.

Updates to the Strategic Reduction Plan

The purpose of the six yearly updates of the Strategic Reduction Plan is to ensure ongoing progress in achieving the containment standard and overflow objectives over the term of the consent. The components of the Strategic Reduction Plan to be updated are as follows:

a) **Updates to the prioritised sub-catchments** – To determine whether updates or changes to the order of the prioritised sub-catchments listed in the Strategic Reduction Plan are required, the Collaborative Committee shall consider:

i. Monitoring results including Mātauranga Māori monitoring required by conditions XX

ii. Wastewater Network Overflow Objective c. - The reduction of wet weather overflows is prioritised in sub-catchments where the overflows are having an adverse effect on Mana Whenua sites of significance.

iii. Modelling updates required by condition 49

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iv. Wet weather overflow records required by condition 40 v. Annual Reports required by condition 37 vi. Any complaints recorded under condition 45 vii. Any updates to the information the Collaborative Committee had to consider in preparing the Strategic Reduction Plan (a) i to xi above. The Collaborative Committee shall recommend any updates to or changes in the order of the prioritised sub-catchments. The consent holder shall adopt the recommendation of the Collaborative Committee. b) **Update of the Global Initiatives** – The consent holder with support from a Mātauranga Māori expert or other party agreed to by Taranaki Whānui and oversight from the Collaborative Committee shall consider the effectiveness of the current Global Initiatives in contributing to progressing the achievement of the containment standard across the wastewater network catchment and propose any changes to the initiatives or include any additional initiatives. The Collaborative Committee will consider the proposals of the consent holder and recommended any changes or additions the Global Initiatives. The recommendation shall be adopted by the consent holder. **c) Review of initiatives for achieving Zero Overflow Aspirations –** the consent holder shall present its findings on the option selected by the Collaborative Committee. If the consent holder has found the option to be feasible, the Collaborative Committee will work with the consent holder on how to develop public, financial, and political support for the implementation of the option and no further options will be investigated. If the option is not considered feasible, the Collaborative Committee will recommend another option from the list for the consent holder to investigate. The successful option must be included in Sub-catchment Reduction Plans as part of a pilot study for its implementation at the request of the Collaborative Committee. **d) Update timeline for the submission of Sub-catchment Reduction Plans** - The consent holder shall update the order and timeline for the submission of the Sub-catchment Reduction Plans to the Manager for certification to reflect any updates to prioritised sub-catchments from a) above and to ensure the requirements of condition 6 are met.

Attachment 3: Methodology for Setting the Containment Standard

Methodology

The containment standard for the wet weather overflows from the Hutt and Wainuiomata Wastewater Network Catchment shall be set in the first Strategic Reduction Plan and once set will apply for the duration of the consent. The containment standard shall be developed by the consent holder with support from a Mātauranga Māori expert or other party agreed to by Taranaki Whānui and oversight from the Collaborative Committee.

The Collaborative Committee will recommend to the consent holder the standard for the Wastewater Network Catchment and the consent holder shall adopt the standard.

The steps involved in setting the containment standards shall be:

Step 1: Network performance assessment

This assessment should be a one-off exercise for setting the containment standard. The ongoing reporting will be covered by the reporting required under condition 37.

This step involves the application of network models and monitoring data including data from Mātauranga Māori monitoring to assess the performance of the wastewater network.

a) The current and future (without further improvement) network performance is to be assessed using monitoring data and a calibrated and validated wastewater network model for the Hutt and Wainuiomata Wastewater Network Catchment.
b) The modelling shall include assumptions relating to future population and economic growth, climate change and Inflow and Infiltration that are based on good industry practice and best information available.
c) Monitoring data will be used to support the analysis of the performance of the network using models.
d) The assessment of the network performance shall include:
    i. the performance of the existing network as well as predictions for future network performance (under a do-nothing scenario). This information will provide the baseline against which the performance of the wastewater network overflow reduction programme and priorities is compared.
    ii. Overflow frequencies and volumes (annual average, based on network modelling using a long-term rainfall data series) per location, per wastewater catchment and per receiving environment.
    iii. Indicators on inflow and infiltration
    iv. Actual wet weather overflow occurrences based on telemetry monitoring or other reporting (e.g. complaints) and a general analysis will be undertaken comparing the modelled performance with the actual performance.
    v. The forecast impact on wet weather overflows of proposed improvement works including inflow and infiltration initiatives
    vi. Advice from Mana Whenua based on Mātauranga Māori monitoring.

Step 2: Develop cost assessment

This step involves determining the high level costs of meeting a range of containment standards.

a) High level costs of a range of containment standards shall be determined using cost optimisation assessment supported by network modelling. Through this assessment the most cost-efficient mix of network improvements and policy interventions shall be identified for each potential containment standard; based on network modelling and mitigation desktop cost curve estimates. Option cost optimisation shall consider a range of network improvements and policy interventions, such as:
    i. Network storage
    ii. Network capacity (pipes, pump stations, treatment plants and ancillary structures)
    iii. Network configuration; redirecting flows and reconfiguring service areas of treatment plants, pump stations or other parts of a network and real time controls.
    iv. Inflow and infiltration reduction programmes
    v. Network demand strategies (reducing water usage, stormwater management etc.)
    vi. Management of new developments.

Methodology

b) Annual average wet weather overflow frequency shall be the primary attribute used as the 'unit' for determining benefit in the cost benefit analysis.

c) The cost assessment shall investigate the costs to achieve a range of a wet weather containment standards in the range from 1 overflow per 3 months to 1 overflow in 2 years on average.

d) Total cost (CAPEX and OPEX costs over the term of the consent) shall be used as the unit for determining containment standard costs.

e) Sensitivity testing shall be undertaken to determine how sensitive the costs of meeting different containment standards are to changes in key assumptions. Assumptions to be tested include:
   i. Climate change
   ii. Population and economic growth
   iii. Inflow and infiltration
   iv. Cost assumptions, including the energy costs and the cost of materials and labour
   v. Accuracy or reliability of network performance modelling for large unusual wet weather event ARIs

f) The results of the cost analysis and sensitivity testing shall be presented as a cost curve(s) with the benefits expressed as a percentage improvement so that 100% will represent no-overflows.

g) A report shall be prepared and presented to the Collaborative Committee that:
   i. Details the methodology followed in establishing the containment standard costs curve
   ii. Includes information relating to the reliability of the outcomes or uncertainties in areas where the confidence in the network model is limited
   iii. Presents the cost curve(s)
   iv. Recommends a range of potential containment standards for the network.

The report on the cost analysis shall be included with the documentation submitted for certification as part of the first Strategic Reduction Plan.

Step 3: Assessment of effects of the containment standards

This step involves assessing the potential environmental effects of the wastewater network performing in accordance with the range of potential containment standards recommended in step 2.

a) This assessment shall be based on the Methodology for the Assessment of Effects of Wet Weather Wastewater Overflows December 2020, cultural values assessments and advice from Mana Whenua and shall be undertaken by appropriately experienced experts including a Mātauranga Māori expert or other party agreed to by Taranaki Whānui.

b) Mana whenua shall be invited to actively participate in the cultural component of the assessment of effects, or nominate a consultant to complete this assessment on their behalf

c) Regional Public Health shall be invited to provide feedback on the public health component of the assessment of effects. This feedback shall be reported to the Collaborative Committee and to the Manager as part of the containment standard certification process.

The funding implications of meeting the range of containment standards shall be analysed in conjunction with the consent holder's long term investment plan.

Step 4: Adoption of the containment standard

a) The Collaborative Committee shall recommend a containment standard for the wastewater network to the consent holder. The recommendation shall be based on the outcomes of steps 1 to 3 and the term of the consent.

b) The consent holder shall adopt the recommendation of the Collaborative Committee.

c) The containment standard for the wastewater network and the process followed for setting the standard shall be provided to the Manager for certification as part of the first Strategic Reduction Plan.

Attachment 4: Methodology for Developing the Sub-catchment Reduction Plans

Methodology
To achieve the containment standard and the wastewater network overflow objectives over the term of the consent, a Sub-catchment Reduction Plan shall be prepared for each sub-catchment. The preparation of the plans shall commence once the prioritised sub-catchments have been recommended by the Collaborative Committee and adopted by the consent holder as part of the development of the Strategic Reduction Plan. The timelines for submitting the Reduction Plans for certification by the Manager shall be set out in the Strategic Reduction Plan. The sub-catchment priorities and timelines for submitting the Sub-catchment Reduction Plans for shall be reviewed and updated as part of the updates to the Strategic Reduction Plan.
Sub-catchment Reduction Plans The consent holder with support from a Mātauranga Māori expert or other party agreed to by Taranaki Whānui and oversight from the Collaborative Committee shall prepare the Sub-catchment Reduction Plans. The Sub-catchment Reduction Plan shall include: a) Any targeted receiving environment investigations and modelling projects. b) Proposed short, medium and long term options for physical improvement works to meet the containment standard. c) The cost of potential improvement works and other initiatives taking into account the consent holders' approved funding plan. d) A programme of works and initiatives required for the sub-catchment to ensure the containment standard is met, including a timeline for meeting the containment standard. e) The details of any Global Initiatives to be carried out within or in relation to that sub-catchment. f) If requested by the Collaborative Committee, a pilot study for the implementation of the option adopted by the consent holder in the Strategic Reduction Plan for achieving Zero Overflow Aspirations. The following shall be considered when developing the Sub-catchment Reductions Plans: a) The most cost-effective combinations of network improvement works and other initiatives used in the development of the containment standard that are relevant to the sub-catchment. b) The consent holders' other strategic priorities, including growth locations, ongoing renewal programmes, and implementation of the Stormwater Management Strategy and Stormwater Catchment Management Plans. c) Innovations and technological advances to accelerate meeting the containment standard. d) Information from the sub-catchment community engagement group. Other factors to be considered in the development of the Sub-catchment Reductions Plans: a) The extent of improvement that will be achieved by different improvement works, operational improvements or other initiatives to ensure sufficient progress is made towards the achieving the containment standard and the wastewater network overflow objectives. This shall include the predicted change in performance. b) How once the containment standard has been met in the sub-catchment it will continue to be met. c) Asset condition including information on aging or deteriorated assets. d) Identified short term needs for improvement or known acute, localised adverse effects. e) Any up or downstream effects on network performance.

Methodology
f) Advances in technology and knowledge about the effectiveness of potential improvement works and other initiatives, including learnings from implementation of other Sub-catchment Management Plans.
g) The ability to futureproof network improvements so that they can be adapted to meet changing assumptions (e.g. climate change, growth) and to provide for resilience.
h) Regulatory / consent requirements related to proposed improvement works.
i) Localised environmental effects (e.g. odour, visual, historic heritage) of proposed improvement works.
j) Opportunities to align with growth.
k) Opportunities to obtain alternate sources of funding.
Once a Sub-catchment Reduction Plan has been prepared by the consent holder, the Collaborative Committee shall review the plan and recommend any changes or additions it considers are required to ensure the containment standard will be met and the wastewater network overflow objectives are achieved in the sub-catchment.
The consent holder shall adopt the recommendations of the Wastewater Network Collaborative Committee.
If the consent holder makes any changes to a certified Sub-catchment Reduction Plan, the changes must have or will achieve the same or similar outcomes to the outcomes intended to be achieved by the certified Sub-catchment Reduction Plan.