

# Te Puke Wastewater Treatment Plant Resource Consent Renewal

Section 88 RMA Application to Renew Resource Consents

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Section 88 RMA Application to Renew Resource Consents Associated with the Te Puke Wastewater Treatment Plant

Client: Western Bay of Plenty District Council

ABN: N/A

Prepared by

**AECOM Consulting Services (NZ) Ltd**  
115 Cameron Road, Tauranga 3001, PO Box 13161, Tauranga 3110, New Zealand  
T +64 7 927 3080 F +64 7 927 3082 www.aecom.com

20-May-2016

Job No.: 42075468

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## Quality Information

Document      Te Puke Wastewater Treatment Plant Resource Consent Renewal





Ref              42075468

Date             20-May-2016

Prepared by    Louis Morell

Reviewed by    Richard Harkness

### Revision History

Revision	Revision Date	Details	Authorised	
			Name/Position	Signature
Final	07-Dec-2015	Draft for Internal Review	Richard Harkness Associate Director - Planning	
Draft	10-Dec-2015	Draft for Client Review	Richard Harkness Associate Director - Planning	
Draft	28-Jan-2016	Draft for Consultation	Bob Shaw Associate Director - Water	
Final	20-May-2016	Final for Lodgement	Bob Shaw Associate Director - Water	

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## Executive Summary

**Site Description:** Western Bay of Plenty District Council (WBOPDC) currently operates a wastewater treatment plant (WWTP) that treats wastewater from the Te Puke Township. The WWTP was constructed in 1986, and is located on council owned land, legally described as Lot 1 DPS 37512, CT 47C/150; with a site area of 0.8296 Ha; and situated at 18 Gordon Street, Te Puke. Over time, WBOPDC has made a significant investment in the Te Puke WWTP, with a replacement value in the order of \$15.8M, and intends to continue operations for the long term, thereby ensuring there is a good return on the investment made on behalf of the rate payers/local community.

**Surrounding Environment:** For context, Te Puke WWTP is located on the fringe of Te Puke township, within a rural area, and situated to the north of the East Coast Main Trunk Railway line, and adjoining the Waiari Stream.

The site is designated in the WBOPDC district plan, reference D170, for the *Use of land for Sewage Treatment and Disposal and Sewage Treatment Plant Buffer*, and there are no resource consents sought under the district plan. The boundaries for Designation D170 include the long access drive off Gordon Street and an extensive buffer area incorporating much of the low lying rural zoned land to the north, and extends over the East Coast Main Trunk Railway to the south. The buffer area includes part of the stop-bank on the true left bank for the Waiari Stream.

The combination of rural zoned land surrounding the WWTP site and this buffer area help to address reverse sensitivity; thereby preventing the possibility of intense residential development encroaching too close to the WWTP and potentially raising issues regarding adverse odour, noise, amenity or visual effects. Much of the rural zoned land nearby to the WWTP is low lying with a flood hazard, hence it is unlikely for intensive residential development close to the WWTP site.

**Existing Consents:** The WWTP is currently permitted to operate under three existing resource consents, as follows:

- RC 02 4889: Discharge of treated wastewater to a wetland and seepage to land;
- RC 02 4891: Discharge of treated wastewater to the riparian wetland and diffuse seepage to the Waiari Stream (maximum discharge limit of 9000m<sup>3</sup>/day); and
- RC 03 0135: Discharge of potentially odorous gases to air.

These three consents were granted between April and June of 1998, and will expire on 30 November 2016.

**S124 RMA Consent Renewals:** WBOPDC seek to replace these existing resource consents, pursuant to section 124 of the Resource Management Act 1991 (RMA), to allow the existing activity to continue operating, and to obtain new resource consents from the Bay of Plenty Regional Council (BOPRC), on a 35-year term, to meet the current and future growth needs of the Western Bay of Plenty district, in particular the current population of 8,144 that is expected to increase by more than 30% by 2045.

In seeking new consents, the maximum allowable discharge to the Waiari Stream receiving environment over the next 35 years will remain at 9000 m<sup>3</sup>/day (as currently consented); and the existing points of discharge will continue to be used for the ongoing discharge.

The proposed discharges are classified as a discretionary activity under the following regional plan rules:

- Rule 37 of the Operative Bay of Plenty Regional Water and Land Plan (RWLP).
- Rule 19 of the Operative Bay of Plenty Regional Air Plan (RAP).

**Receiving Environment:** After UV disinfection, the treated wastewater from the WWTP is discharged to constructed wetlands, prior to being piped through to the riparian wetlands alongside the Waiari Stream, for diffuse seepage into the Waiari Stream. This location is approximately 2km upstream to the Kaituna confluence. The Maketu/Ongatoro Estuary is located further downstream to the north, beyond the point where the Kaituna River re-diversion is proposed. At present, the Kaituna River flows both directly out to the Pacific Ocean and through Maketu/Ongatoro Estuary, with future plans to increase the volume of flow through the Maketu/Ongatoro Estuary.

The section of the Waiari Stream in the vicinity of the Te Puke WWTP, is classified as *Drains with Ecological Values* under the BOPRC Regional Water and Land Plan (RWLP) Proposed Water Quality Classification Map (Version 8). Further upstream (to the south) there is a consented water take from the Waiari Stream for municipal

water supply, jointly held by Tauranga City Council and WBOPDC. This water take and water treatment plant have yet to be built, and are situated up No 1 Road, beyond the intersection with Roderick Lane, and before Cheetham Ave. Consent has been granted for a 35 year period with a maximum water take of 60,000m<sup>3</sup>/day. The Waiari Stream is classified as *Water Supply* upstream of the water take location, and as *Aquatic Ecosystem* downstream, as far as SH2 under the RWLP Proposed Water Quality Classification Map (Version 8). The conditions of this 'municipal water supply' take consent RC65637 require monitoring above and below the Te Puke WWTP discharge point to provide information on temperature, pH, turbidity, dissolved oxygen, invertebrate composition (taxa richness, macroinvertebrate indices and species abundance), and fish composition.

**Treatment Process:** The treatment process for the Te Puke WWTP involves primary screening (and the screenings are collected in bags and sent to the landfill), then secondary treatment through two stages with an Anoxic stage and an Aerobic stage in the Activated Sludge Aeration Tanks; prior to being directed to clarifiers where solids and liquids are separated. To maintain a constant population of micro-organisms in the secondary treatment phase, activated sludge is returned from the clarifiers back into the Anoxic Zone within the secondary treatment. The waste activated sludge (WAS) from the clarifier is directed to two aerobic digesters for further stabilisation. From the digesters the waste sludge is dosed with a polymer and pumped to the centrifugation process for dewatering. The bio-solids from the centrifugation process are transported to a worm farm in Kawerau, while the liquid stream "centrate" is returned back to the Anoxic Zone within the secondary treatment. The treated effluent from the clarifiers is directed to a brush clarifier before it enters the ultra violet plant (UV) for disinfection. After the UV disinfection the effluent is directed to a constructed wetland, prior to seepage to the riparian wetlands for diffuse seepage to the Waiari Stream.

The existing WWTP comprises following facilities:

- Main pumping station;
- Rotary Screen;
- Activated Sludge Aeration Tanks;
- Primary and Secondary Clarifiers;
- Equalisation Structure;
- Brush Clarifier;
- Ultraviolet Disinfection;
- Subsurface Wetland;
- Riparian Wetland.

**Existing WWTP Performance:** During preparation of the Assessment of Environmental Effects (AEE) to support this application, the monitoring results recording past performance of the WWTP were analysed. Monitoring began at some locations as early as 1998 and others commenced in 2005; and the frequency of monitoring was in accordance with the existing consents. The results indicated the plant has been operating well in terms of meeting the compliance limits for flow, cBOD5, TN, and DRP. With regards to TSS and faecal coliforms, the historic monitoring results indicated that compliance levels had been exceeded on a few occasions in the past, prior to plant upgrades being undertaken by WBOPDC, particularly upgrades to the UV disinfection unit in 2013. With these improvements made to the UV disinfection, and the further dilution factor achieved in the receiving environment of the Waiari Stream, the faecal coliform levels are well below the MfE recreational guideline and NPS of 412cfu/100ml.

After UV disinfection, the treated wastewater discharges into the constructed wetland (prior to a diffuse discharge through the riparian wetlands adjoining the Waiari Stream) and the analysis of monitoring data and further sampling indicated that the faecal coliform count increased significantly within the wetlands. This increase is recognised as being the result of increased bird life and other fauna associated with the wetlands.

The current Te Puke WWTP consent does not require WBOPDC to test for total phosphorus (TP) as part of the treated effluent monitoring conditions, hence there is no data on TP concentrations of the post-UV treated effluent which could then be used to show the direct contribution of TP to the Waiari Stream from the WWTP. As part of this AEE preparation, TP has been analysed from the samples collected directly from Waiari Stream (up and down stream); however, this does not specifically show TP immediately after UV disinfection which is a more accurate indicator of TP from the WWTP itself rather than a combination of TP from nearby farms, drains and the WWTP. In light of this situation, it is recommended that TP be monitored from now, with a compliance threshold set at 15g/m<sup>3</sup> based on 10 out of 12 consecutive samples. This is to be measured immediately after UV disinfection and prior to any other influences from surrounding areas of farm paddocks, drains and the wetlands.

Further analysis of water quality parameters was undertaken within the Waiari Stream by sampling both upstream and downstream of the WWTP diffuse discharge to the riparian wetlands. The results showed a slight disparity between the upstream and downstream sites, with the upstream site indicating a stream of 'good' and 'excellent' quality, while the downstream site a 'fair' to good' quality. The investigation showed that water quality immediately downstream of the WWTP was further affected by other sources of discharges, including surrounding farm run-off, as well as a larger farm drain (in very close proximity to the WWTP) with concentrated farm discharges from the upstream catchment.

The investigation included a bank side assessment of water quality parameters where the Waiari Stream flows into the Kaituna by sampling both upstream and downstream of this confluence for comparison purposes. Both upstream and downstream sites showed 'probable severe pollution' or 'poor' quality. The results of the investigation indicate that the Waiari Stream is generally more supportive of aquatic life, while the Kaituna River is of poorer health.

**Future WWTP Upgrades:** A number of WWTP upgrades have been identified for future consideration to improve operations and maintenance; which over time ensure that the plant continues to operate effectively. The upgrades assist in improving the level of treatment; and also help to address the nutrient loading aspect in relation to future (increased) volumes of treated wastewater, when considering total nitrates (TN) and total phosphates (TP). For example, to improve total nitrogen reduction, there are various methods available including the following possible measures:

- 1) Increase anoxic zone capacity.
- 2) Increase aeration basin capacity.
- 3) Increase sludge age in the aeration basin.
- 4) Increase sludge concentration in the aeration basin.

The actual capacity increase or suggested option can only be determined by further process design/modelling work. Future upgrades may also include provision for emergency storage and consideration of nutrient reduction in relation to future population growth and associated increases in nutrient loading to maintain water quality in the receiving environment.

**Water Quality Standards:** It is also recommended that more stringent levels be set for the water quality standards to be met within the receiving environment of the Waiari Stream; after the upgrades required to meet more stringent standards have been completed within a six year period (refer to column 3 '*Proposed Upgrade for Current AAF (1800 m<sup>3</sup>/day)*' in Table 6, section 6.2 of the Process Performance Review report in **Appendix H**). Prior to this the current levels set should apply as per the existing consents.

**Table ES1: AECOM suggested consent conditions in comparison with current conditions**

Parameter	Current			Suggested	
	Median	Maximum	Maximum Load	10 out of 12 consecutive samples	Maximum
Flow		9000 m <sup>3</sup> /day		4000 m <sup>3</sup> /day	9000 m <sup>3</sup> /day
cBOD5	-	30 g/m <sup>3</sup>	55 kg/day	20 g/m <sup>3</sup>	-
TSS	-	30 g/m <sup>3</sup>	60 kg/day	25 g/m <sup>3</sup>	-
TN	-	-	90 kg/day	20 g/m <sup>3</sup>	-
DRP	-	20 g/m <sup>3</sup>	-	-	-
TP	-	-	-	15 g/m <sup>3</sup>	-
Faecal coliforms	200 /100 mL	1000 /100 mL	-	-	-
E. Coli	-	-	-	200 /100 mL	1000 / 100 mL

**Tangata Whenua Participation and Consultation:** Early on in assessing environmental effects from the continued discharge, regular meetings were held with representatives of the following Iwi/Hapu groups as part of a project steering group, commencing 16 June 2015:

- Tapuika Iwi Authority;



- Te Kapu o Waitaha;
- Ngati Whakaue; and
- Ngati Pikiao ki Maketu.

Upon completion of the draft AEE report in January 2016, there was further liaison with these respective Iwi/Hapu representatives as part of the consultation phase, particularly to engage in preparation of Cultural Impact Assessment (CIA) reports. Consultation was also undertaken with stakeholders and the wider community, particularly through public meetings on 17 and 19 March 2016; with bus trips organised for community members to tour around the WWTP on the Saturday meeting, 19 March 2016.

During this consultation phase with tangata whenua, stakeholders and the local community, a number of key issues were identified, including the following (but not limited to):

- Nutrient loading for the Kaituna River catchment, particularly related to total phosphates and nitrates;
- Past performance and compliance with consent requirements for water quality standards
- Back-up power generation
- Maintenance of wetlands, and opportunity to enhance/increase the wetlands;
- Advantage of 'rock maturation chamber' if wetland no longer required for WWTP;
- Nutrient uptake from wetlands;
- Effectiveness of UV disinfection on pathogens, viruses and bacteria;
- Impacts on Waiari Stream, habitat and fauna;
- Contamination of the Waiari Stream by various discharges in the local catchment;
- Discontinuing to discharge to the Waiari Stream receiving environment;
- Alternative discharge options;
- Reuse of water, reduction of grey water reaching WWTP
- Avoiding use of potable water for activities where grey water could be used instead;
- Trucking solids off site, and vermiculture
- Rangiuru Business Park, Affco and other industrial activities that can generate wastewater;

In response to the issues raised during the consultation phase, WBOPDC has considered the following aspects:

- Agreeing to look into ways for more community engagement in the vicinity of the WWTP, such as greater connectivity for cycleways and walkways nearby on council owned land, and possibly provide for greater involvement with wetland enhancement opportunities.
- Agreeing to greater involvement with Tangata Whenua, particularly in relation to monitoring, reporting and investigation of alternative disposal options.
- Discontinuing the use of the wetlands within the WWTP site, and replacing them with a 'bank-side perforated diffuser pipe and rock passage chamber' after UV disinfection, that takes the treated wastewater underground to the riparian wetlands alongside the Waiari Stream.
- Investigation of wetland enhancement opportunities, increased wetland provision and greater community connectivity with the wetlands, particularly where further community benefits may be possible, including (but not limited to):
  - Native vegetation enhancement
  - Cultural and Medicinal value
  - Biodiversity enhancement;
  - Education opportunities for schools
  - Research opportunities for secondary and tertiary institutions
  - Food gathering, e.g. water cress
  - Eel farming opportunities
  - Amenity value
  - Improved connectivity for the local community (local cycleways, walkways, boardwalks)
- Investigation of other environmental enhancement works, including riparian bank improvements and planting of native species along the true left Waiari Stream bank that is within council ownership;
- Liaison with stakeholders and community groups promoting cycleway and walkway connectivity in the vicinity of the WWTP, using the stop banks and surrounding road networks;

- Monitoring for compliance with water quality standards (pathogens, nutrients, suspended solids) to be located immediately after UV disinfection, prior to other 'third party' influences/discharges in local catchment affecting sampling results;
- Commitment to WWTP plant upgrades as recommended by council consultants and engineering team.
- Commitment to exploring alternative disposal options initially, with more detailed investigations to follow for any potentially suitable (alternative) sites for disposal of treated wastewater.
- Continued liaison with Rangiuru Business Park and Affco to keep options open for any combined approach to treating wastewater that is more effective and efficient than each party operating its own separate facility and disposal area.

**Assessment of Alternatives:** WBOPDC has commenced work on the 'Disposal Options Investigation' involving a three stage, ten year process that provides adequate time for all the decision making, consultation and long term planning associated with any change to the current disposal of wastewater from the WWTP. The three stages are as follows:

- Stage 1: Alternative Disposal Options Selection using a Multi Criteria Analysis (MCA). This Stage forms the basis of this assessment report.
- Stage 2: Alternative Disposal Site Selection GIS based constraints analysis. This will occur over the period 2016 to 2020 and inform the 2021 – 2031 LTP process.
- Stage 3: Alternative Disposal Option Scheme Selection confirmation. This will occur over the period 2020 to 2026 and inform the 2027 - 2037 LTP.

Stage 1 is complete and involved a Multi Criteria Analysis (MCA) of eight alternative disposal options, as follows:

1. Base Option Te Puke WWTP and discharge to Waiari Stream (BO)
2. Te Puke WWTP and discharge to Forestry Land (LF)
3. Te Puke WWTP and discharge to Horticulture Land (LH)
4. Te Puke WWTP and discharge to Recreational Reserve Land (LRR)
5. Te Puke WWTP and discharge to Wildlife Reserve Land (LWR)
6. Te Puke WWTP and discharge to Pasture Land (LP)
7. Te Puke WWTP and discharge to Ocean Outfall (OO)
8. Te Puke WWTP and discharge to TCC Te Maunga WWTP (TCC)

A group representing a cross section of the community, tangata whenua and Council staff assessed the eight options against the seven qualitative non-cost based criteria below:

1. Sustainability
2. Social/Public Health
3. Cultural
4. Planning and Regulatory
5. Technical/Functional
6. Operational
7. Environmental

The top four ranked options as alternatives to the current 'Base Option', recommended to be carried forward to the Stage 2 Alternative Disposal Site Selection phase, are:

1. Te Puke WWTP and discharge to Forestry Land – LF
2. Te Puke WWTP and discharge to Pasture Land – LP
3. Te Puke WWTP and discharge to Wildlife Reserve Land – LWR
4. Te Puke WWTP and discharge to Recreational Reserve Land – LRR

This investigative process requires a comprehensive approach over the next ten years or so for Stages 2 and 3, to provide an adequate timeframe for a robust assessment of the site constraints for each disposal option, as well as thorough research into the final scheme selection phase to confirm the preferred disposal site and scheme option.

This investigation relates to disposal options, not treatment alternatives given that WBOPDC has made significant investment in the Te Puke treatment facilities and continues to do so. WBOPDC intends to continue

using the plant for the long term; and the assessment of alternatives will assist in identifying if there is another disposal option that could either assist Te Puke WWTP with disposing some or all of the volume of treated wastewater as consented (9,000m<sup>3</sup>/day).

Following on from this investigative phase, WBOPDC will then be in a position to commence all that is required to secure any new land required (if this is confirmed as preferred alternative); and then initiate the tender process for design and construction. Overall, the time required to investigate, confirm, design, consent, construct and commission any preferred alternative disposal scheme is going to involve a highly lengthy period. Further, the treatment and disposal option for wastewater from the Rangiora Business Park are yet to be investigated and may need to be included in this investigative phase as well.

As noted above, Stage 1 of the investigation considered qualitative non-cost based criteria (such as sustainability, social, cultural, environmental factors); however, the options analysis to date has not factored in cost or economic factors. This means that even though other disposal options may look favourable, they may prove to be too costly to implement, or they may have other restrictions which prevent ease of use. Should another parcel of land be required for any alternative disposal, there is currently no certainty of land acquisitions, market value or any Public Works Act considerations (timeframes, complexity or land owner resistance).

The investigation may identify a way to discharge all of the treated waste to an alternative site, or possibly a combination of some of the discharge continuing to the Wairi Stream riparian wetlands while the excess flow is discharged to an alternative property (thereby splitting the discharge). Whatever the outcome of these alternative investigations, it should be noted that there are still many variables to be addressed, cost implications to be factored in, and possible options such as a split discharge to be investigated further. In light of such uncertainties and the intention to continue using the Te Puke WWTP facilities, the 35 year period is crucial for certainty of operations and ongoing upgrades by WBOPDC.

**35 year Consent Period Required:** WBOPDC has a number of WWTPs in the district including Katikati, Maketu, and Waihi Beach in addition to Te Puke WWTP. The burden of consent renewals and upgrades is borne by the local community of rate payers and WBOPDC is seeking to spread out such costs through the Long Term Plan, as evenly as possible over future years, to ensure that budgets are more easily made available for such infrastructure upgrades and RMA related costs. These wider budgetary factors are relevant for WBOPDC in considering ongoing and future costs for the Te Puke WWTP related upgrades, maintenance and re-consenting procedures. Given that the Katikati WWTP consent renewal is likely to be in 20 years' time, followed by other consent renewals for Maketu (11/8/2045) and Waihi Beach (31/5/2047), WBOPDC seeking to spread the burden of such costs on the local rate payers as best as possible, hence a 35 year period is necessary for this Te Puke WWTP consent renewal.

**Recommended Mitigation, Improvements and Conditions:** During the consultation phase, WBOPDC has considered a number of initiatives relating to the WWTP and possible ways to make improvements; and WBOPDC has made certain recommendations in this regard. The following aspects are to be included in the proposal:

- No change to the volume of treated wastewater to be discharged; being 9000m<sup>3</sup>/day.
- Within a five year period, replacing the constructed wetlands (within the WWTP site) with a 'bank-side perforated diffuser pipe and rock passage chamber' located immediately after UV disinfection, which takes the treated wastewater underground to the riparian wetlands alongside the Waiari Stream.
- Providing for riparian bank improvements and riparian wetland enhancement works.
- Setting up a Kaitiaki Advisory Group for greater Tangata Whenua involvement.
- Recommend provision of monitoring and reporting data to Tangata Whenua at same time as to BOPRC.
- Include monitoring of total phosphates (TP) from WWTP.
- Recommend more stringent levels for compliance with water quality standards.
- Recommend a technical review of the WWTP and its performance every six years, synchronised with the three yearly review of the Long Term Plan to anticipate any upgrades required.
- Recommend an investigative programme over the next ten years for alternative disposal options and possible sites.
- Seek a 35 year term for the consent with appropriate conditions for monitoring, liw/Hapu involvement, technical reviews and a s128 RMA type review clause; including a condition requiring completion of the investigation of alternative disposal options.

## 1.0 Introduction

### 1.1 Background

Western Bay of Plenty District Council (WBOPDC) currently operates a wastewater treatment plant (WWTP) that treats wastewater from the Te Puke Township. The WWTP was constructed in 1986, and is located on land owned by WBOPDC at 18 Gordon Street, Te Puke. The WWTP is currently permitted to operate under three existing resource consents which allow treated wastewater to be discharged to a wetland, and then to the riparian wetland alongside the Waiari stream; and for associated air discharges (Resource Consent Numbers 02 4891, 02 4889 and 03 0135). All three consents lapse on 30 November 2016, and require consent renewal for the WWTP to continue with such discharges to the receiving environment.

WBOPDC has a number of WWTPs in the district including Katikati, Maketu, and Waihi Beach in addition to Te Puke WWTP. The burden of consent renewals and upgrades is borne by the local community of rate payers, and WBOPDC is seeking to spread out such costs through the Long Term Plan, as evenly as possible over future years, to ensure that budgets are more easily made available for such infrastructure upgrades and RMA related costs. These wider budgetary factors are relevant for WBOPDC in considering ongoing and future costs for the Te Puke WWTP related upgrades, maintenance and re-consenting procedures. Given that the Katikati WWTP consent renewal is likely to be in 20 years' time, followed by other consent renewals for Maketu and Waihi Beach, WBOPDC seeking to spread the burden of such costs on the local rate payers as best as possible, hence a 35 year period is necessary for this Te Puke WWTP consent renewal.

Further, WBOPDC has made a significant investment in the WWTP at Te Puke, with a replacement value in the order of \$15.8M; and WBOPDC has also identified future upgrades required, as well as ongoing maintenance requirements to meet the current and future needs of the Te Puke township. Accordingly, WBOPDC intends to continue treating wastewater at this WWTP for the long term period; and therefore, seeks to replace these existing resource consents, pursuant to section 124 of the Resource Management Act 1991 (RMA), to allow the existing activity to continue discharging treated wastewater, and to obtain new resource consents from the Bay of Plenty Regional Council (BOPRC).

In light of the above, WBOPDC seeks a 35-year term to meet the future needs of the Western Bay of Plenty district, in particular the current population of 8,144 that is expected to increase by more than 30% by 2045.

In seeking consent renewals for the WWTP under the RMA, WBOPDC has also identified opportunities through this project for improvements to the WWTP operations and upgraded facilities, and for greater community and Tangata Whenua involvement; and also increased opportunities for community engagement and connectivity with wetlands, cycleways and walkways in the general vicinity.

This AEE has been prepared in accordance with s88 and Schedule 4 of the RMA. It describes the proposed activities and the environment at the site, and assesses the actual and potential environmental effects of allowing the activity. The detail provided accords with the scale and significance of the environmental effects in question.

### 1.2 Site Details

Table 1 below provides site details for the Te Puke WWTP.

**Table 1** Site Details

<b>Legal Description</b>	Lot 1 DPS 37512 SA47C/150 The Certificate of Title is attached as <b>Appendix A</b> to this report.
<b>Site Area</b>	0.8296 Ha
<b>Physical Address</b>	18 Gordon Street, Te Puke
<b>Approximate Grid Reference</b>	NZTM 1893884.23 E, 5813149.00 N
<b>Tenure/Ownership</b>	Western Bay of Plenty District Council
<b>Key Natural Features</b>	Waiari Stream (refer to section 2.2 for a description of the catchment) Kaituna River Ongatoro/Maketu Estuary
<b>District Plan</b>	Western Bay of Plenty District Plan

<b>Relevant Regional Plans</b>	Bay of Plenty Regional Policy Statement (RPS) Bay of Plenty Regional Water and Land Plan (RWLP) Bay of Plenty Regional Air Plan (RAP) Bay of Plenty Regional Coastal Environment Plan (RCEP)
<b>Relevant National Policy Statements</b>	National Policy Statement for Freshwater Management 2014 New Zealand Coastal Policy Statement 2010

### 1.3 Consent History

Western Bay of Plenty District Council (WBOPDC) was granted resource consent (discharge permit 02 4891 – refer **Appendix C**) on 30 June 1998, to discharge treated effluent to the Waiari Stream. The stated purpose of the consent is for *discharging wastewater from a treatment system consisting of activated sludge, constructed wetlands and ultraviolet disinfection, via wetland seep to the Waiari Stream*. The consent expires on 30 November 2016.

Resource consent (discharge permit 02 4889 – refer **Appendix C**) was granted on 30 June 1998, to discharge treated effluent to land. The stated purpose of the consent is for discharging seepage from a constructed wetland to land. The consent expires on 30 November 2016.

Resource consent (discharge permit 03 0135 – refer **Appendix C**) was granted on 22 April 1998, to discharge potentially odorous gases from the Te Puke sewage treatment plant to the air. The stated purpose of the consent is to discharge potentially odorous gases from the Te Puke Sewage Treatment Plant located on Gordon Street, Te Puke. The consent expires on 30 November 2016.

### 1.4 Statutory Authorisations

The following is a summary of RMA authorisations required from BOPRC in relation to this application:

#### Replacement Discharge Permits – Section 124 RMA

- Section 124 RMA states that:

<p><b>124 Exercise of resource consent while applying for new consent</b></p> <p>(1) Subsection (3) applies when—</p> <ol style="list-style-type: none"> <li>(a) a resource consent is due to expire; and</li> <li>(b) the holder of the consent applies for a new consent for the same activity; and</li> <li>(c) the application is made to the appropriate consent authority; and</li> <li>(d) the application is made at least 6 months before the expiry of the existing consent.</li> </ol> <p>(2) Subsection (3) also applies when—</p> <ol style="list-style-type: none"> <li>(a) a resource consent is due to expire; and</li> <li>(b) the holder of the consent applies for a new consent for the same activity; and</li> <li>(c) the application is made to the appropriate consent authority; and</li> <li>(d) the application is made in the period that— <ol style="list-style-type: none"> <li>(i) begins 6 months before the expiry of the existing consent; and</li> <li>(ii) ends 3 months before the expiry of the existing consent; and</li> </ol> </li> <li>(e) the authority, in its discretion, allows the holder to continue to operate.</li> </ol> <p>(3) The holder may continue to operate under the existing consent until—</p> <ol style="list-style-type: none"> <li>(a) a new consent is granted and all appeals are determined; or</li> <li>(b) a new consent is declined and all appeals are determined.</li> </ol> <p>(4) This section does not apply to an application to which <a href="#">section 165ZH</a> applies.</p>
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- WBOPDC seek to continue operating under existing consents 02 4891, 02 4889 and 03 0135 pursuant to s124 RMA until a decision is made on this current application and it is beyond challenge (s124(3)).
- Pursuant to Section 124 RMA, this application has been made within 6 months of the expiry of these consents (30 November 2016), and accordingly the activities authorised by these existing consents can continue until a decision is made on the new applications.

### New Discharge Permits

- In addition to the replacement discharge permits for the existing activities, WBOPDC seeks all necessary discharge permits (whether explicitly identified or not):
  - to retain the existing discharge limit of 9000m<sup>3</sup>/day; and
  - for a term of 35 years.

Note: this report provides the basis for the predicted future wastewater volumes and an evaluation of the expected environmental effects.

- The proposed discharges are classified as a discretionary activity under the following rules:
  - Rule 37 of the Operative Bay of Plenty Regional Water and Land Plan (RWLP).
  - Rule 19 of the Operative Bay of Plenty Regional Air Plan (RAP).

### Proposed bank-side perforated diffuser pipe and a rock passage chamber system

The plant upgrades proposed as part of this consent renewal application include the bank-side perforated diffuser pipe and a rock passage chamber system. This system requires consent for the installation of the diffuser piping system from the rock passage chamber to the discharge location along the riparian wetland of the Waiari Stream. This is a discretionary activity under the following rules:

- Rule 85 - *Modification of a Wetland* - of the RWLP.

The proposed system has not yet reached detailed design stage, however it is considered that the earthworks associated with construction of the system will meet the permitted activity earthworks thresholds of Rule 1, Table 28, row (e) in chapter 9 of the RWLP. This has been proposed to be constructed within five years' time.

### Other Consents required

- Western Bay of Plenty District Plan
  - The Te Puke WWTP site is designated (reference D170) under the Western Bay of Plenty District Plan. It is likely that the proposed future upgrades to the WWTP, including the proposed bank-side perforated diffuser pipe and a rock passage chamber system, will require an Outline Plan of Works approval and this will be sought in the future, once detailed design of the upgrades has been achieved.
- BOPRC Floodway and Drainage Bylaw 2008
  - The installation of the diffuser piping system from the rock passage chamber to the discharge location along the stop bank of the Waiari Stream, requires drilling of pipe(s) through the stop bank to connect up to the diffuser outlet system. This will require a Bylaw Authority from BOPRC under the BOPRC Floodway and Drainage Bylaw 2008. Once detailed design of the bank-side perforated diffuser pipe and a rock passage chamber system has been achieved, a Bylaw Authority will be applied for from BOPRC.
- Riparian enhancement works have also been proposed, which may also require consents under the RWLP; and these can be applied for when further details are available on what is proposed. Finalising such details may also involve further liaison/consultation with stakeholders, local community representatives and Tangata Whenua in this regard.
- Wetland enhancement works proposed may also trigger the need for further consents; and as above, such consents can be determined more accurately when details for final improvements, expansion and community connectivity have been agreed upon with the respective parties interested in such wetland enhancement and expansion; i.e. stakeholders, local community and Tangata Whenua.

In summary, new consents are likely in the future for the following aspects:

- Riparian bank enhancement works;
- Wetland expansion/enhancement works;
- Outline Plan of Works for WWTP upgrades; and
- Bylaw Authority from BOPRC under the BOPRC Floodway and Drainage Bylaw 2008 for installation of the diffuser piping system from the rock passage chamber to the discharge location along the stop bank of the Waiari Stream.

## 1.5 Statutory Framework and Plans

Section 8 of this report describes the statutory provisions and policies relevant to this application, as contained in the RMA and the following planning documents;

- The New Zealand Coastal Policy Statement 2010 (NZCPS);
- The National Policy Statement for Freshwater Management 2014 (NPS FM);
- Operative Bay of Plenty Regional Policy Statement 2014 (RPS);
- Operative Bay of Plenty Regional Water and Land Plan 2008 (RWLP);
- Operative Bay of Plenty Regional Air Plan 2003 (RAP);
- Operative Bay of Plenty Regional Coastal Environment Plan (RCEP).

The Waiari Stream is recognised as a statutory area for Tapuika under the Tapuika Claims Settlement Act 2014; and also as a statutory area for Waitaha under the Waitaha Claims Settlement Act 2013. This legislative aspect is further addressed in Section 8 of this AEE.

The Te Puke WWTP involves discharging treated wastewater into wetlands adjoining the Waiari Stream; and the Waiari Stream is within the Kaituna River catchment which now has a recently established Kaituna River Authority. This newly formed Kaituna River Authority is Te Maru O Kaituna (the Authority or TMOK) and was established through separate legislation under Part 9 of the Nga Punawai o Te Tokotoru Claims Settlement Act. The purpose of the Authority is, "*the restoration, protection, and enhancement of the environmental, cultural and spiritual health and well-being of the Kaituna River.*" The Authority is also explicitly empowered to have regard to the social and economic well-being of people and communities. This is also further addressed in Section 8 of this AEE.

## 1.6 Te Puke WWTP Project Requirements and Objectives

### Project Objectives

The WWTP project objectives were developed in liaison with WBOPDC as both the operator of the WWTP and as the applicant to replace the existing discharge permits. This process took into account community aspirations and wellbeing; the actual and potential adverse effects on the receiving environment; cultural values and the principles of the Treaty of Waitangi; affordability, and matters of sustainability under the RMA. These objectives help provide guidance for the WWTP and what WBOPDC hopes to achieve for Te Puke with this wastewater treatment facility.

### Overall Objective

The overall purpose of this project is to undertake all necessary technical effects assessments and other studies, consultation (working with WBOPDC) and preparation of the Assessment of Environmental Effects (AEE), resource consent(s) and other documentation required for the lodgement of a long-term 35 year resource consent(s) for the Te Puke treatment plant in a manner that:

1. Is safe, economical and robust;
2. Protects public health;
3. Maintains the quality of the environment;
4. Minimises environmental and community disruption during any upgrades/construction;
5. Is generally supported by the community;
6. Reflects the appropriate policies and directions of WBOPDC; and
7. Efficiently treats and discharges the wastewater in an affordable manner.

### Environmental objectives

8. To ensure all ambient receiving criteria for water quality are met - within the Waiari Stream and downstream Kaituna River catchment.
9. To maintain a fully functioning healthy wetland ecosystem.
10. Where possible, to enhance the existing natural environment including ecological biodiversity
11. To provide for the "Best Practicable Option" under the Resource Management Act 1991.

**Tangata whenua/cultural objectives**

12. To recognise and provide for the special role and relationships that Maori have as tangata whenua, their relationship with the land, water bodies, wetlands and the surrounding area.
13. To work in partnership with tangata whenua to achieve a good understanding of the Te Puke WWTP system, in order to enable genuine and effective consultation.
14. To facilitate and provide opportunities for tangata whenua to contribute to project decision making.
15. To acknowledge the right of tangata whenua to act independently in the resource consent process.

**Social objectives**

16. To ensure that the Te Puke WWTP system achieves the greatest practicable protection of public health.
17. To ensure that the Te Puke WWTP system provides for the well-being of the community in an affordable manner.
18. To work in partnership with the community and key stakeholders to achieve a good understanding of the Te Puke WWTP system, in order to enable genuine and effective consultation.

**Economic objectives**

19. To provide an economically sustainable Te Puke WWTP system that is affordable for both public and private sectors.
20. To promote outcomes that ensure sufficient flexibility to adopt new appropriate technology and more sustainable solutions in the future, in an affordable manner.



## 2.0 Description of the Existing Environment

### 2.1 Introduction

The Te Puke WWTP is located on a rural property accessed via a long driveway off Gordon Street, between the East Coast Main Trunk Railway and the Waiari Stream, on the eastern fringe of the Te Puke township – refer Figure 1 below for location of the WWTP. Details of the environmental context for WWTP location and surrounding area are also shown in Appendix B with further Site Location Details. The predominant surrounding land uses are rural to the north, east and south; and residential further west and south-west.

The Rangiuuru Business Park is yet to be developed, and is situated much further to the east, as shown on the Site Location Plan in Appendix B. The future wastewater treatment facilities required for this future business park development is yet to be determined. The existing Affco Meat Works facility is also situated further east, and has its own wastewater treatment system prior to discharge; and is also within the Kaituna River catchment.

The Te Puke WWTP site is designated in the WBOPDC district plan, reference D170, for the *Use of land for Sewage Treatment and Disposal and Sewage Treatment Plant Buffer*. The boundaries for Designation D170 include the long access drive off Gordon Street and an extensive buffer area incorporating much of the low lying rural zoned land to the north, and extends over the East Coast Main Trunk Railway to the south. The buffer area includes part of the stop-bank on the true left bank for the Waiari Stream.

Reverse sensitivity is addressed through the combination of rural zoned land surrounding the WWTP site and this buffer area; thereby preventing the possibility of intense residential development encroaching too close to the WWTP and raising issues regarding adverse odour, noise, amenity or visual effects. Much of the rural zoned land nearby to the WWTP is low lying with a flood hazard, hence it is unlikely for intensive residential development close to the WWTP site.

The WWTP wetlands adjoin the WWTP site directly to the east and have an area of approximately 0.95 Ha. The Waiari Stream is located approximately 85m to the east of the WWTP and approximately 25m from the wetlands. The stream flows from South to North. The diffuse discharge points into the riparian wetlands alongside the Waiari Stream are approximately 2km upstream to the Kaituna confluence. Further upstream (to the south) there is a consented municipal supply water take of 60,000m<sup>3</sup>/day from the Waiari Stream jointly held by Tauranga City Council and WBOPDC for future urban growth within Tauranga urban area and also nearby Te Puke environs. This water take and water treatment plant have yet to be built, and are situated up No 1 Road, beyond the intersection with Roderick Lane, and before Cheetham Ave. Consent has been granted for a 35 year period.

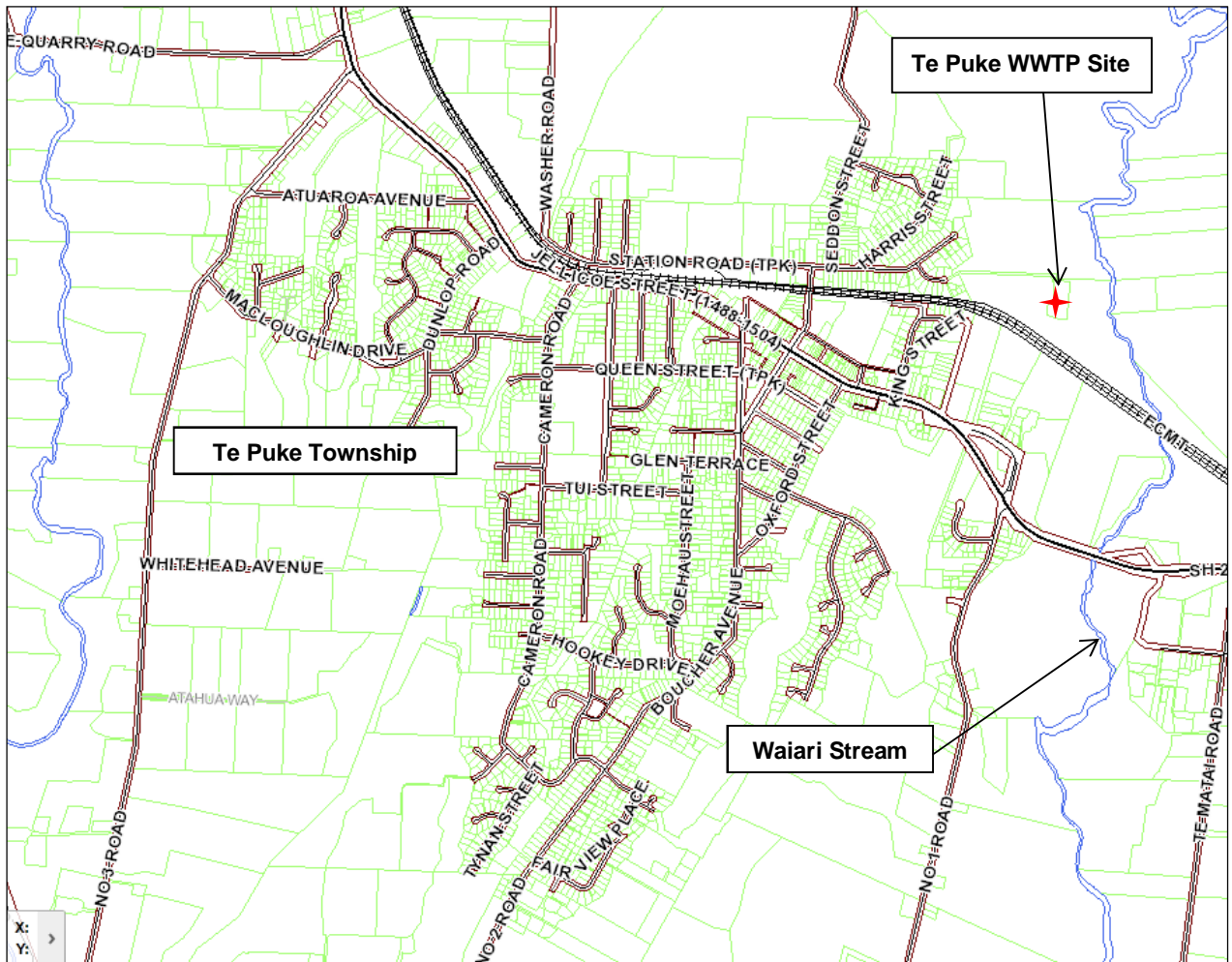
The Waiari Stream flows to the north of the WWTP and joins up with the Kaituna River a further 2kms downstream. The Kaituna River is surrounded by a rural catchment, being a highly modified environment. The Kaituna River flows further north before reaching the Ford Cut where the Kaituna River re-diversion is proposed to divert a greater flow than currently occurs from the Kaituna River into the Maketu/Ongatoro Estuary. The remainder of the Kaituna River flows out to sea directly through the Te Tumu Cut.

The section of the Waiari Stream in the vicinity of the Te Puke WWTP, is classified as *Drains with Ecological Values* under the BOPRC Regional Water and Land Plan (RWLP) Proposed Water Quality Classification Map (Version 8). The Waiari Stream is classified as *Water Supply* upstream of the water take location, and as *Aquatic Ecosystem* downstream, as far as SH2 under the RWLP Proposed Water Quality Classification Map (Version 8).

From SH2 and north to the sea, the Kaituna River is classified as *Contact Recreation*, and further inland to the south and east, the Kaituna River is classified as *Aquatic Ecosystem* under the RWLP Proposed Water Quality Classification Map (Version 8).

Refer to Figure 3 below for details on the RWLP Proposed Water Quality Classifications for the Waiari Stream and Kaituna River in the vicinity of the Te Puke WWTP, and for the downstream receiving environment.

Figure 1 Te Puke WWTP Locality Plan



## 2.2 Catchment Details

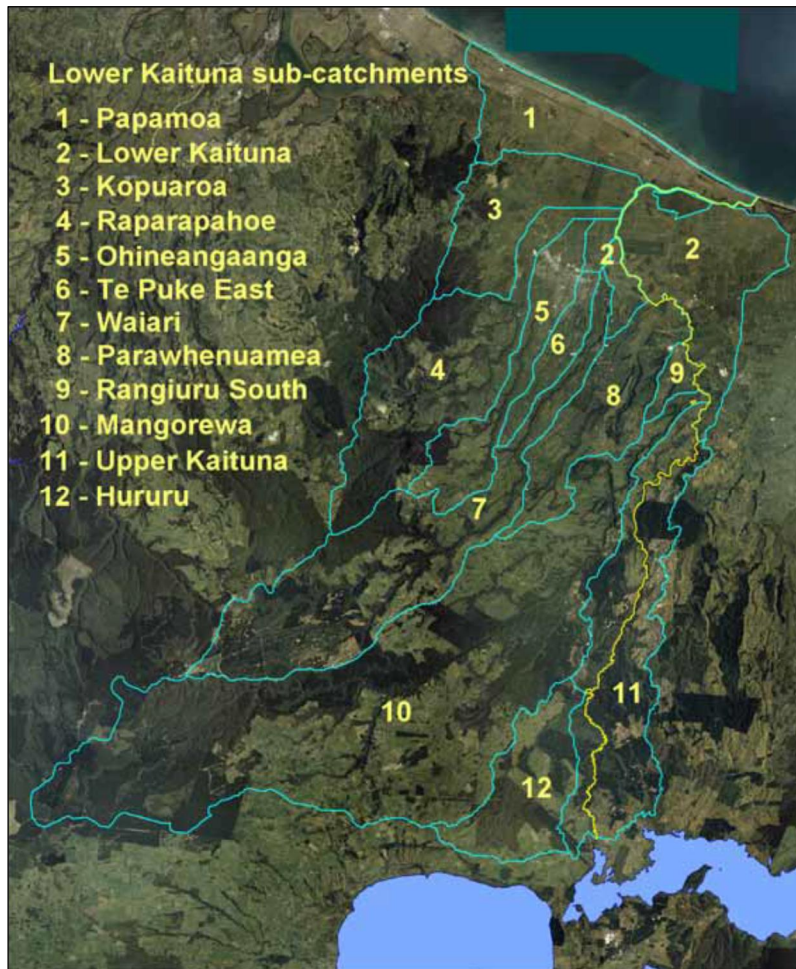
The Waiari Stream is a tributary of the Kaituna River and forms part of the Waiari sub-catchment, being one of twelve Lower Kaituna sub-catchments (refer Figure 2 below). The lower Kaituna catchment is approximately 580km<sup>2</sup>. As noted above, the Waiari Stream section within the vicinity of the Te Puke WWTP, is classified as *Drains with Ecological Values* under the BOPRC Regional Water and Land Plan Proposed Water Quality Classification Map (Version 8) – refer to Figure 3 below. Further details are contained within Schedule 9 – Water Quality Classification Standards of this Plan and are assessed in section 8.7.1 of this report.

BOPRC Environmental Report 2007/16 *Lower Kaituna Catchment and Water Quality* indicates that ‘The Kaituna River is situated in the central Bay of Plenty. It flows from the Okere arm of Lake Rotoiti to the sea at Te Tumu and partially to Maketu Estuary. Historically the river flowed through Maketu Estuary but was diverted directly to the sea in 1958 by engineering works. Following the granting of consent to the Minister of Conservation in 1994, re-diversion of restricted flows back to the estuary then occurred in 1996.

*Within the lower catchment of the Kaituna River there are changes in land management and other pressures which have the potential to affect water quality, including proposed hydroelectric schemes. The upper portions of the lower catchment are dominated by pastoral and exotic forestry land use with some sub-catchments retaining extensive native forest cover. In recent years there has been some conversion of exotic forestry to dairy farms. Much of the mid-section of this catchment has had suitable land converted to horticulture with kiwifruit being very*

dominant. The lower regions of the catchment are predominantly productive river flat plains with extensive drainage schemes. The dominant land use being dairy farming.'

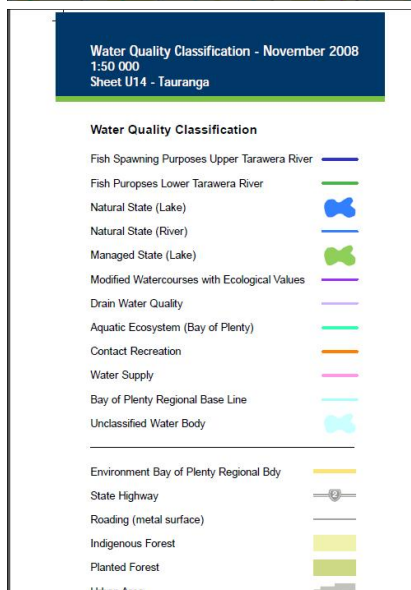
Figure 2 Sub-catchments of the lower Kaituna Catchment<sup>1</sup>



<sup>1</sup> Figure sourced from BOPRC Environmental Report 2007/16 *Lower Kaituna Catchment and Water Quality*.



Figure 3 Figure 3 Water Quality Classification Map U 14 - Tauranga



**Water Takes Downstream of Te Puke WWTP:**

BOPRC have advised that there are a number of water takes downstream of the Te Puke WWTP, however there are only two for actual surface water takes; and they are for irrigation purposes, and also to divert flow from Ohineangaanga Stream into the Raparapahoe Canal, i.e. not for potable water. The other water takes are from ground water, and also takes for earthworks, etc. Refer to Figure 4 for location details of the current consented water takes.

We also note that Rule 42 of the BOP Regional Water and Land Plan (RWLP) provides for water takes as Permitted Activity if they do not exceed 15m<sup>3</sup>/day/property (provided certain criteria are met) and Rule 52 of the RWLP provides for the Intake Structure as Permitted Activity (again subject to criteria being met). Note that this involves consideration of the Q5 7 day low flow as well as the cumulative effect of all users of surface water takes on the instream minimum flow requirement.

These details have been taken into account in the AEE and technical specialist assessments for Public Health.



## 2.3 Te Puke WWTP

### 2.3.1 General Overview

The Te Puke WWTP site is approximately 0.8 Ha in area and currently serves approximately 8,144 people. The existing plant includes the following facilities:

- Main pumping station;
- Rotary Screen;
- Activated Sludge Aeration Tanks;
- Primary and Secondary Clarifiers;
- Equalisation Structure;
- Brush Clarifier;
- Ultraviolet Disinfection;
- Subsurface Wetland;
- Riparian Wetland.

The WWTP site and surrounding land is generally flat with the WWTP site being higher than the surrounding paddocks, wetland and Waiari Stream.

The separation distance to nearest neighbouring property/sensitive receptor at 38 Landscape Road is approximately 230m (property south west of the subject site, over the ECMT Rail track). The next closest property to the north west of the WWTP, at 12 Gordon Street, is approximately 238m away. There are numerous further sensitive receptors in the nearby vicinity, particularly the residential development further to the west along Gordon, King, Lee and Harris Streets.

### 2.3.2 Description of WWTP Processes

The Te Puke Wastewater Treatment Plant Operations Manual, prepared by Opus International Consultants Ltd and dated January 2015, provides the following WWTP process description:

*At the beginning of the treatment process the raw wastewater is pumped and gravity fed to the treatment plant. The raw wastewater is initially discharged into a wet well containing two submersible pumps working in duty standby arrangement. From the wet well the wastewater is pumped into a stainless steel box that allows the wastewater to be directed to a 3 mm screen compactor to remove large material. The screenings are collected in bags and sent to the landfill.*

*From the screen compactor the wastewater flow is split and then continues to two secondary treatment reactors. The secondary treatment involves two stages, an anoxic stage and an aerobic stage. The flow from the screen compactor initially enters the Anoxic Stage and then continues to the Aerobic Stage for further treatment. From the end of the Aerobic Stage, a portion of the flow is recycled back into the Anoxic Stage with the use of a submersible pump. The remaining flow continues by gravity to a splitter box.*

*The effluent from the splitter box moves on to three site clarifiers for the separation of the liquid from solids. To maintain a constant population of micro-organisms in the secondary treatment reactor, a return activated sludge is circulated from the clarifiers back into the Anoxic Zone within the secondary treatment. The waste activated sludge (WAS) from the clarifier is directed to two aerobic digesters for further stabilisation.*

*From the digesters the waste sludge is dosed with a polymer and pumped to the centrifugation process for dewatering. The supernatant is transferred back into the receiving chamber and the Anoxic Zone within the secondary treatment. The bio-solids transferred to the centrifugation process are separated into a dense cake containing solids which are transported to a worm farm in Kawerau, while the liquid stream "centrate" is returned back to the Anoxic Zone within the secondary treatment.*

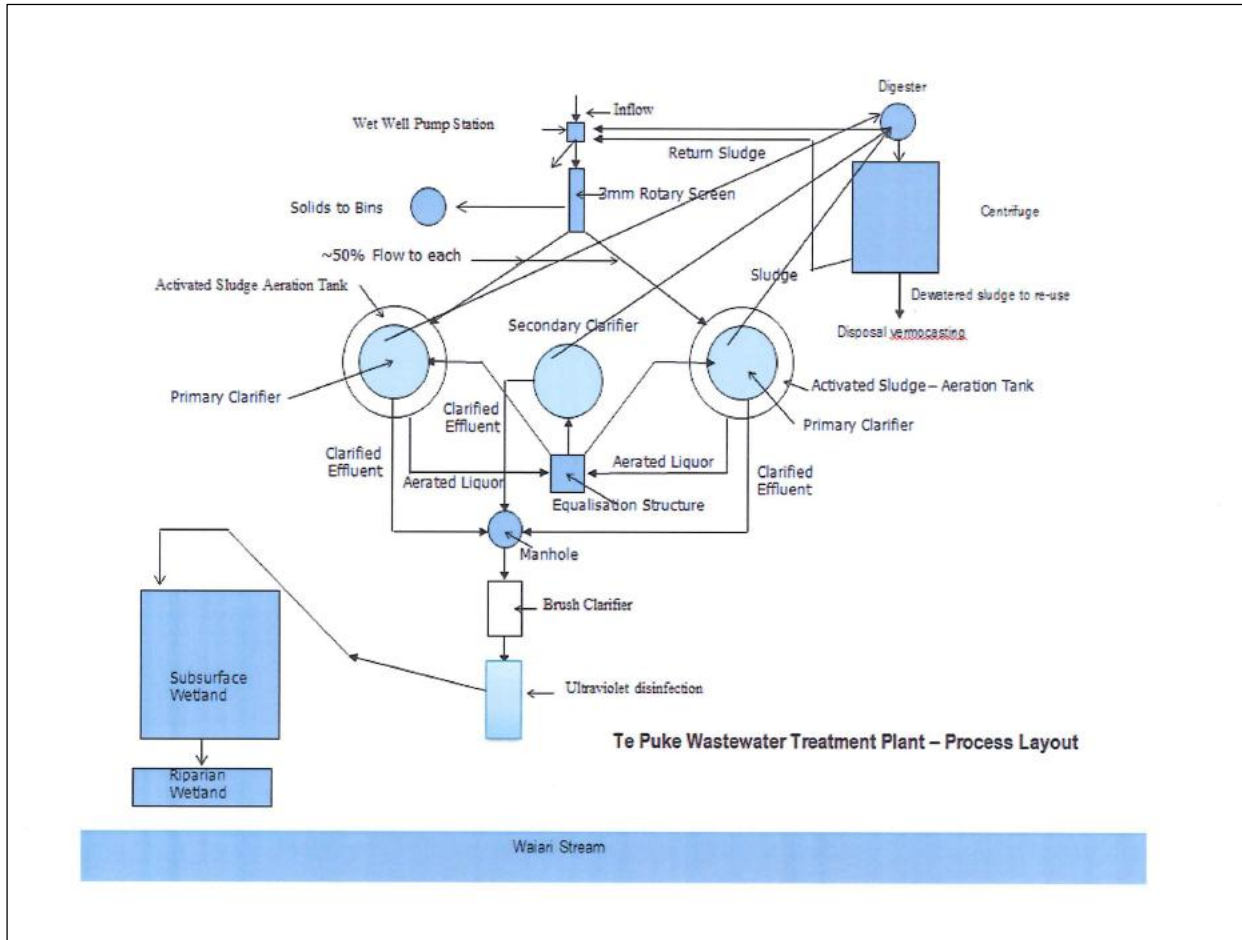
*The treated effluent from the clarifiers is directed to a brush clarifier before it enters the ultra violet plant for disinfection. After the UV disinfection the effluent is directed to a constructed wetland, prior to seepage to the riparian wetlands for diffuse seepage to the Waiari Stream.*



A copy of this Operations Manual is available upon request.

The Te Puke WWTP process layout is indicated in Figure 3, below.

Figure 5 Te Puke WWTP Process Layout<sup>2</sup>



<sup>2</sup> Sourced from *Te Puke Wastewater Treatment Plant Operations Manual*, prepared by Opus International Consultants Ltd and dated January 2015.



## 3.0 Description of the Proposal

A Process Operation Review of the Te Puke WWTP has been undertaken by AECOM and the report is contained in **Appendix H**. The report has assessed the WWTP process design and operational issues. A number of operation and capacity issues have been identified for the Te Puke WWTP. This is based on a very high level assessment of the existing process units and operation. A brief list of the findings associated with each process unit is provided in Table 6 of the report. In addition, the report has recommended more stringent effluent limits over and above those conditions contained within the existing consents (Resource Consent Numbers 02 4891 and 02 4889) – refer to section 3.3.2.1 below for details.

### 3.1 Replacement Discharge Permits

It is proposed to replace the existing discharge permits (024891 and 02 4889) with new discharge permits to allow the existing WWTP to continue operation in accordance with s124(1) RMA. Additionally, WBOPDC also seeks to retain the existing discharge limit of 9000m<sup>3</sup>/day for a term of 35 years to accommodate current demand within Te Puke and allow for future growth, i.e. WBOPDC do not seek to increase the daily volume for the permitted discharge but a longer period of 35 years is required to ensure that the WWTP accommodates future growth. A longer period also avoids repetitive consent renewal proceedings with all the associated costs, lengthy timeframes and uncertainties of resource consents. Further, the long term consented period also provides WBOPDC adequate time to investigate any future disposal option that provides an alternative location for either the whole or partial discharge of treated wastewater.

### 3.2 Continuation of Existing WWTP Operation

In seeking the replacement of the existing consents (02 4891, 02 4889 and 03 0135), it is proposed to operate the existing WWTP with the (current) consented discharges until such time as the upgrades to the WWTP are undertaken and become operational.

### 3.3 Proposed WWTP Operation and Upgrades

#### 3.3.1 Projected Wastewater Volumes

##### 3.3.1.1 Population Projection

The current population served by the WWTP is 8,144, with the projected population to be served by the WWTP expected to increase by more than 30% by 2045.

##### 3.3.1.2 Projected Wastewater Flows

The Process Operation Review of the Te Puke WWTP (**Appendix H**) indicates that the maximum flow level of 9000 m<sup>3</sup>/day is not expected to be exceeded, even in 2051. As such, there is therefore no proposed increase to the maximum consented flow level.

#### 3.3.2 Discharge Standard

##### 3.3.2.1 Existing and Proposed Effluent Treatment Standards

The existing discharge standards as set by the conditions of resource consents (02 4891 and 02 4889) are provided in **Appendix C**.

The following treatment quality standards are proposed (refer Table 2 below and Process Operation Review in **Appendix H**).

**Table 2** AECOM suggested consent conditions in comparison with current conditions

Parameter	Current			Suggested	
	Median	Maximum	Maximum Load	10 out of 12 consecutive samples	Maximum
Flow		9000 m <sup>3</sup> /day		4000 m <sup>3</sup> /day	9000 m <sup>3</sup> /day
cBOD5	-	30 g/m <sup>3</sup>	55 kg/day	20 g/m <sup>3</sup>	-
TSS	-	30 g/m <sup>3</sup>	60 kg/day	25 g/m <sup>3</sup>	-
TN	-	-	90 kg/day	20 g/m <sup>3</sup>	-
DRP	-	20 g/m <sup>3</sup>	-	-	-
TP	-	-	-	15 g/m <sup>3</sup>	-
Faecal coliforms	200 /100 mL	1000 /100 mL	-	-	-
E. Coli	-	-	-	200 /100 mL	1000 / 100 mL

### 3.3.2.2 Discharge to Waiari Stream

As indicated in Table 2 above, the maximum allowable discharge to the Waiari Stream over the next 35 years will remain at 9000 m<sup>3</sup>/day. The existing points of discharge will continue to be used for the ongoing discharge. The AEE is based on this maximum discharge at the same points of discharge; and the proposed effluent standards, over the next 35 years; refer to section 7 of this report for AEE details.

At this stage it is not known whether the Rangiora Business Park is expected to provide its own wastewater system for treatment and disposal, or whether it will connect into the Te Puke WWTP. If it connects to the Te Puke WWTP it may be possible to accommodate a certain amount of the wastewater volume generated from business at Rangiora, provided that the effluent is pre-treated to ensure the Te Puke WWTP can maintain the required effluent treatment standards in accordance with the consent(s) conditions.

### 3.3.3 Recommended Upgrades

The Process Operation Review of the Te Puke WWTP (**Appendix H**) contains a number of proposed (recommended) upgrades, suggested as a result of the review. Refer to Table 6 in section 6.2 of the report for further details. WBOPDC will continue to monitor and review operations to determine if there is a need for emergency storage to be added in the future, or for any future upgrades required for nutrient removal when population growth and nutrient loadings increase.

The various WWTP upgrades that have been proposed for future consideration are to improve operations and maintenance, thereby ensuring over time that the plant continues to operate effectively and meet the required water quality standards. The upgrades assist in improving the level of treatment; and also help to address the nutrient loading aspect in relation to future (increased) volumes of treated wastewater, when considering total nitrates (TN) and total phosphates (TP). For example, to improve total nitrogen reduction, there are various methods available including the following possible measures:

- 1) Increase anoxic zone capacity.
- 2) Increase aeration basin capacity.
- 3) Increase sludge age in the aeration basin.
- 4) Increase sludge concentration in the aeration basin.

While some of the upgrades are scheduled to be implemented in the near future, the actual capacity increase or suggested option can only be determined by further process design/modelling work. Further details are in Table 6 in section 6.2 of the Process Operation Review report in **Appendix H**.

#### Proposed bank-side perforated diffuser pipe and rock passage chamber

With regards to the proposed bank-side perforated diffuser pipe and a rock passage chamber, WBOPDC intends to undertake such works within five years. Accordingly, WBOPDC also seeks consent under Rule 85 of the RWLP

to modify riparian wetlands for the installation of the proposed bank-side perforated diffuser pipe and rock passage chamber. Refer to **Appendix B** for site plan details of the bank-side perforated diffuser pipe and rock passage chamber. Final design details and construction management details can be provided to regional council for approval prior to work commencing, and this can be included as a consent condition. Details on reinstatement works for the riparian wetlands and also on riparian bank enhancement works can also be provided to regional council for approval prior to work commencing, and this too can be addressed as a consent condition.

The rock passage chamber and bank side perforated diffuser pipe ensure that the discharge of treated wastewater is not directly into water, but has contact with land to address cultural concerns; and this also provides for attenuation, slowing the flow/discharge through the rock passage chamber followed by the riparian wetlands, prior to seeping into the Waiari Stream.

### 3.4 Term of Consent

WBOPDC seeks renewal of the existing consent for a period of 35 years for the following reasons:

- WBOPDC has made a significant investment in the Te Puke WWTP, including key upgrades in recent years to enhance performance, as well as the investments made in all supporting infrastructure, reticulation and associated structures. The long term intention is to capitalise on such an investment, and seek a good return over many years to come. To replace these WWTP facilities would involve a significant cost, in the order of \$15.8M.
- WBOPDC has reviewed the current operations and identified further upgrades/improvements for the level of treatment that can be achieved. The improvements include a proposed re-constructed bank-side perforated diffuser pipe and a rock passage / underground rock maturation cell system to replace the wetland system; which will enhance the quality of the treated effluent reaching the riparian wetlands alongside the Waiari Stream.
- While the WWTP is currently complying with current water quality standards, WBOPDC is proposing more stringent levels be met, once the proposed improvement works have been implemented.
- The improvements proposed provide both benefits for the receiving environment, and create opportunities for other initiatives (alternative uses) to be considered regarding the existing wetland area.
- No increase or change is sought to the volume of discharge from what is currently consented over the next 35 years; i.e. the intention is to continue with consent for a daily discharge not exceeding 9000m<sup>3</sup> and a rate of 106l/s.
- The WWTP has the capacity to accommodate future growth over the next 35 years without changing (increasing) the consented volume and rate of discharge. With this approach, there is certainty for future residential growth and for business development within the local area and economy for Te Puke.
- There are also future opportunities for business development within Rangiora, and by maintaining the existing WWTP consent over the next 35 years with such capacity for future growth, this allows consideration of the option of piping wastewater from Rangiora Business Park, should this option be preferred in the future.
- There may also be the option of considering a combined strategy approach for other significant generators of wastewater; for example, when consent renewal is required for other larger operators in the vicinity, such as AFFCO. Hence there are significant strategic benefits for maintaining the Te Puke WWTP over the long term of the maximum 35 year period available under the RMA.
- A longer period also avoids repetitive consent renewal proceedings occurring every few years with all the associated costs for re-consenting, lengthy timeframes for seeking consent renewal, and all the uncertainties of resource consents.
- It is preferable to have consent over the 35 year period (thereby avoiding such unnecessary consent renewal proceedings) and to provide for a regime of adequate monitoring and review conditions which ensure compliance and upgrades as necessary to address water quality aspects over this period of time.

- Further, the long term consented period also provides WBOPDC adequate time to investigate any future disposal option that provides an alternative location for either the whole or partial discharge of treated wastewater.
- WBOPDC has commenced investigations on alternative ways to discharge the treated wastewater from the Te Puke WWTP and this process will continue over the next 10 years. Regardless of the outcome for this investigation, the 35 year period is essential as the significant investment in the Te Puke treatment facilities means that WBOPDC intends to continue using the plant for the long term; and there is no certainty of outcome for the investigations underway. In this regard, the options analysis to date has not factored in cost or economic factors, i.e. even though other disposal options may look favourable, they may prove to be too costly to implement, or they may have other restrictions which prevent ease of use. Should another parcel of land be required for any alternative disposal, there is currently no certainty of land acquisitions, market value or any Public Works Act considerations (timeframes, complexity or land owner resistance).
- The investigation may identify a way to discharge all of the treated waste to an alternative site, or possibly a combination of some of the discharge continuing to the Waiari Stream riparian wetlands while the excess flow is discharged to an alternative property (thereby splitting the discharge). Whatever the outcome of these alternative investigations, it should be noted that there are still many variables to be addressed, cost implications to be factored in, and possible options such as a split discharge to be investigated further. In light of such uncertainties and the intention to continue using the Te Puke WWTP facilities, the 35 year period is crucial for certainty of operations and ongoing upgrades by WBOPDC.

In summary, WBOPDC is seeking to maintain the same volume of discharge as currently consented, and is seeking to upgrade the treatment process, as well as proposing more stringent standards for water quality within the receiving Waiari Stream environment. This can be addressed by way of a condition on the consent. WBOPDC is also proposing to continue investigating alternative ways to discharge the treated wastewater, and this too can be addressed by way of a consent condition. It is a much better approach to have a 35 year consent with appropriate consent conditions that address such aspects, including monitoring and review conditions, than to have short term consents requiring continual renewal, additional costs and risk of delays/uncertainties.

## 4.0 Resource Consent Requirements

### 4.1 Bay of Plenty Regional Water and Land Plan 2008

Pursuant to Rule 37 - *Discharges to Water or Land* – of the Regional Water and Land Plan (RWLP), any discharge of a contaminant to water and any discharge of a contaminant onto or into land which may result in the contaminant entering water, is a **Discretionary Activity**. Treated sewage water is to continue to be discharged to the adjoining wetlands and ultimately the Waiari Stream.

Pursuant to Rule 85(5)(d) - *Modification of a Wetland* - of the RWLP, the installation of the diffuser piping system from the rock passage chamber to the discharge location along the riparian wetland of the Waiari Stream is a **Discretionary Activity**.

It is noted that the proposed bank-side perforated diffuser pipe and a rock passage chamber system has not yet reached detailed design stage, however it is considered that the earthworks associated with construction of the system will meet the permitted activity earthworks thresholds of Rule 1, Table 28, row (e) in chapter 9 of the RWLP.

### 4.2 Bay of Plenty Regional Air Plan 2003

Pursuant to Rule 19 *Discretionary Activity – Specified Activities - the discharge of contaminants into air from the following activities is a discretionary activity:*

*w (ii) Commercial composting, treatment or disposal of waste, but excluding sewage pumping stations and on-site effluent treatment systems permitted under the On-site Effluent Treatment Regional Plan;*

The air discharges from the WWTP are therefore considered to be a **Discretionary Activity** under the RAP.

Note that, pursuant to Rule 17 *Permitted Activity – General Activities - All other discharges of contaminants into air which are not subject to an express rule in this regional air plan shall be a permitted activity subject to compliance with the following conditions. If the conditions cannot be complied with the activity shall be a discretionary activity.*

*(b) The discharge must not result in objectionable or offensive odour or particulates beyond the boundary of the subject property or into water;*

### 4.3 Regional Coastal Environment Plan 2011

The Regional Coastal Environment Plan RCEP has been considered here, as it is recognised, that the Te Puke WWTP is situated alongside the Waiari Stream which forms part of the Kaituna River catchment; and is upstream of the Te Tumu Cut where the Kaituna flows directly out to sea, as well as the Ford Cut where the Kaituna River flows into the Maketu/Ongatoro Estuary and then into the ocean. Further, a greater volume of flow from the Kaituna River is to be re-diverted through the Ford Cut and into the Maketu/Ongatoro Estuary. The Kaituna River mouth and the Maketu/Ongatoro Estuary are both affected by tidal flow.

In this regard, the downstream areas of the estuary and where the Kaituna flows out to sea have been included in the overall AEE when considering the effects of the discharge of treated wastewater on the Waiari Stream and the downstream receiving environment. The AEE considers how after diffuse discharge of treated wastewater through the riparian wetlands alongside the Waiari Stream, there is reasonable mixing within the Waiari Stream resulting in dilution for the downstream receiving environment, with minimal effects on the Kaituna River and downstream water quality; i.e. negligible effects on the coastal marine area managed under the RCEP.

It is noted that the Proposed RCEP was publically notified on 24 June 2014 and that there are still outstanding appeals before the Environment Court. The Proposed RCEP gives effect to the new RPS 2014 and the new NZCPS 2010, as well as incorporating previous provisions for Aquaculture Management Areas. Of particular relevance is Issue 11 and also Policy WQ2 which relate to the impact of land based activities on water quality for the Kaituna River mouth and Ongatoro/Maketu Estuary as follows:

#### **Issue 11:**

One of the key challenges facing Tauranga Harbour, and other harbours and estuaries in the region, is the impact of land based activities and land use on water quality. Coastal areas in the Bay of Plenty where water quality is of concern and the contaminants of concern are:

- (i) Tauranga Harbour – sedimentation; stormwater discharges (localised effect); nutrients;
- (ii) Ōhiwa Harbour – sedimentation; stormwater; faecal microbial contamination;
- (iii) Waihi Estuary (Little Waihi) – sedimentation;
- (iv) Kaituna River mouth and Ōngātoro/Maketū Estuary – sedimentation; nutrients; faecal microbial contamination; industrial discharges; stormwater;
- (v) Whakatāne Estuary – faecal microbial contamination; contaminated land leachate; stormwater;
- (vi) Other low energy systems such as estuary and harbour environments that accumulate sediment bound contaminants.

#### **Policy WQ2**

To take into account the objectives and policies of the following documents when making decisions on the management of land and water resources, including coastal waters, in the Bay of Plenty region:

- (a) Tauranga Harbour Integrated Management Strategy;
- (b) Ōhiwa Harbour Strategy;
- (c) Kaituna River to Ōngātoro/Maketū Estuary Strategy;
- (d) Any relevant planning document that is developed as a result of Treaty of Waitangi Settlement agreements or recognitions made under the Marine and Coastal Area (Takutai Moana) Act 2011; and
- (e) Any relevant Iwi Management Plan recognised by an iwi authority and lodged with the Regional Council."

The appeals on the Proposed RCEP relate to cultural matters, roles and responsibilities of other agencies, integrated management for land development aspects (for Te Tumu landowners/developers) and for climate change and mangrove management issues, natural heritage, Iwi resource management, coastal hazards and climate change, recreation/public access/open space, activities in the coastal marine area (CMA), discharges, aquaculture, biosecurity, harbour development zone, port zone, indigenous biological diversity areas, outstanding natural features and landscapes in the coastal environment, regionally significant surf breaks, areas of significant cultural value, financial contributions, offshore islands, and associated provisions of the proposed RCEP. The operative RCEP will remain active until all appeals on the Proposed RCEP have been resolved.

The Kaituna River to Ōngātoro/Maketū Estuary Strategy has, however, been taken into account in the AEE, and consideration given to the downstream effects at the Kaituna River mouth and Ōngātoro/Maketū Estuary as identified in the Proposed RCEP (Issue 11 and dPOLICY WQ2). Further details are in Section 8.10 of the AEE.

In light of the AEE identifying that the Te Puke WWTP is unlikely to be having an adverse effect on the Ōngātoro/Maketū estuary and downstream coastal marine area, and the fact that there are no activities occurring within the coastal marine area, no resource consents are required.

#### 4.4 Western Bay of Plenty District Plan 2012

The WWTP site is designated (reference D170) under the WBOP District Plan for the *Use of land for Sewage Treatment and Disposal and Sewage Treatment Plant Buffer*.

There are no resource consents sought under the District Plan.

#### 4.5 Summary of Consent Requirements

Overall resource consent is required for a **Discretionary Activity** pursuant to Rule 37 and Rule 85 of the RWLP; and Rule 19 of the RAP.

Any future changes to the wetlands or riparian bank enhancement works, may require separate consents under the RWLP at a later date. Other approvals required include:

- Outline Plan of Works for WWTP upgrades (bank-side perforated diffuser pipe and rock passage chamber); and
- Bylaw Authority from BOPRC under the BOPRC Floodway and Drainage Bylaw 2008 for installation of the diffuser piping system from the rock passage chamber to the discharge location along the stop bank of the Waiari Stream.

## 5.0 Wastewater Treatment Alternative Disposal Option Evaluation

WBOPDC has made a significant investment in the WWTP facilities in Te Puke, and continues to do so with ongoing maintenance and also future upgrades under consideration. The long term intention for WBOPDC is to continue to operate the WWTP at Te Puke for wastewater treatment purposes, thereby ensuring a good return on the investment made by council on behalf of their local community. WBOPDC has also considered whether the current disposal method should remain as the only mechanism for disposal, particularly in light of the feedback during community and Tangata Whenua consultation. Feedback comments have indicated that there would be community support for other types of disposal, as either an alternative to ongoing discharges to the Waiari Stream environment (total removal of the discharge) or as a way to address any increase in the volume of treated wastewater for disposal in the future (keeping the current discharge and taking additional flow elsewhere for disposal). Accordingly, WBOPDC has commenced work on investigating alternative disposal methods.

An assessment of wastewater treatment disposal option alternatives has been undertaken in the form of an Alternative Disposal Options Assessment workshop and report - refer to **Appendix I** for further details. The process undertaken so far is described in further detail below.

### 5.1 Disposal Options Assessment Summary

WBOPDC has not previously considered any alternative disposal options for the Te Puke WWTP. Any change to the current WWTP disposal option will have a significant impact on WBOPDC's wastewater strategy, planning and budgeting processes. In addition there is uncertainty relating to the timing and discharge of wastewater from the Rangiuuru development. As such WBOPDC has adopted a more long term strategic approach when undertaking the Alternative Disposal Options Assessment for the Te Puke WWTP consent renewal.

In order to facilitate the decision making, consultation and long term planning associated with any change to the current disposal of wastewater from the WWTP, WBOPDC has adopted the following three staged, ten year approach in considering Alternative Disposal Options for the Te Puke WWTP:

- **Stage 1:** Alternative Disposal **Options Selection** using a Multi Criteria Analysis (MCA). This Stage forms the basis of this assessment report.
- **Stage 2:** Alternative Disposal **Site Selection** GIS based constraints analysis. This will occur over the period 2016 to 2020 and inform the 2021 – 2031 LTP process.
- **Stage 3:** Alternative Disposal Option **Scheme Selection** confirmation. This will occur over the period 2020 to 2026 and inform the 2027 - 2037 LTP.

This three staged, ten year process will ensure that the assessment undertaken by WBOPDC will be thorough and robust; allow opportunity for wide engagement and consultation with Tangata whenua, the community and stakeholders during the journey; provide key hold points to include feedback, update information and review the process; and provide input into WBOPDC's LTP processes.

Stage One of the Alternative Disposal Options Assessment involved a Multi Criteria Analysis (MCA) of eight alternative disposal options, as follows:

1. Base Option Te Puke WWTP and discharge to Waiari Stream (BO)
2. Te Puke WWTP and discharge to Forestry Land (LF)
3. Te Puke WWTP and discharge to Horticulture Land (LH)
4. Te Puke WWTP and discharge to Recreational Reserve Land (LRR)
5. Te Puke WWTP and discharge to Wildlife Reserve Land (LWR)
6. Te Puke WWTP and discharge to Pasture Land (LP)
7. Te Puke WWTP and discharge to Ocean Outfall (OO)
8. Te Puke WWTP and discharge to TCC Te Maunga WWTP (TCC)

A group representing a cross section of the community, tangata whenua and Council staff assessed the eight options against the seven qualitative non-cost based criteria below:

1. Sustainability
2. Social/Public Health
3. Cultural
4. Planning and Regulatory
5. Technical/Functional
6. Operational
7. Environmental

The criteria, criteria descriptions and assessment guidance notes are provided in in **Table 3**.

**Table 3 MCA Criteria**

Ref	Analysis Criteria	Criteria Description	Notes	Classification	Qualitative or Quantitative?
<b>Goal based Analysis Criteria - Independent of Cost</b>					
G1	Sustainability	Alignment with WBOPDC Sustainability Strategy, Energy Use/Carbon Footprint, Sustainable Development, Future Proofing, Beneficial Reuse	Scoring will be influenced by the amount of energy use, beneficial reuse of the treated wastewater and ability to respond to population growth/increase in demand	Environmental	Qualitative
G2	Social / Public Health	Public Health Risk, Safety, Visual Amenity, Proximity to Neighbours and Effects on Them, Construction Effects, Public Acceptance	Scoring will be influenced by the degree of public health risk, removal of direct discharges to freshwater environments, proximity to neighbours and overall likelihood of public acceptance	Social	Qualitative
G3	Cultural	Matauranga Maori, Discharge to Freshwater, Discharge to Land, Discharge to Coastal Water, Transfer of Wastewater from one rohe to another	Scoring will be influenced by preference to discharge to land over freshwater and coastal water	Cultural	Qualitative
G4	Planning and Regulatory	Consentability, RMA, Freshwater NPS, NZCPS, Kaituna River Management Plan, Complexity and viability of obtaining future consents and designations	Scoring will be influenced by the need (or not) to obtain new discharge consents and designations, or whether existing consent conditions could be changed via a potentially non-notified process and future resource consent requirements, the avoidance of discharges to the Kaituna River catchment and freshwater generally, and the potential effects on the coastal environment and ecology. <b>Overall marking will be from a complexity and viability of consenting/planning process</b>	Environmental	Qualitative
G5	Technical / Functional	Reliability, Flexibility, Constructability, Proven Engineering, Engineering Resilience, Use of Existing Infrastructure	Scoring will be influenced by proven technology and maximises the use of existing infrastructure. Complex options to construct will score more poorly	Other	Qualitative
G6	Operational	Complexity, Safety, Complementary to Existing Infrastructure, Reliability	Scoring will be influenced by the operability of the option i.e. proven technology, can it be supported in NZ, are there other examples in NZ.	Other	Qualitative
G7	Environmental	Natural Hazards, Climate Change, Adverse Effects on the Natural Environment	Scoring will be influenced by the resilience to natural hazards, climate change and potential for adverse effects on the environment	Environmental	Qualitative

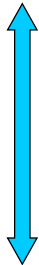
A level of importance was determined by the group for each of the criteria, the criteria options were then scored and the options ranked based on the final agreed scoring. The final agreed criteria weightings are shown in **Table 4**.



**Table 4 MCA Criteria Weighting**

Goal Based Analysis Criteria - Independent of Costs												
Attribute Refs:	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
10												
9												
8												
7												
6												
5												
4												
3												
2												
1												
0												
Criteria	Sustainability	Social/ Public Health	Cultural	Planning and Regulatory	Technical/ Functional	Operational	Environmental					
Weight:	7	9	9	8	6	6	9	0	0	0	0	0

Most Important



Least Important

The workshop attendees scored each of the seven criteria for the eight options being analysed. A score of 1 indicated a poor criteria score for the option while a score of 5 indicated a good score for the option. Refer to report in **Appendix I** for further details.

Eight alternative disposal options have been considered for the alternatives assessment as summarised below. All of the disposal options may cater for either 100% of the consented discharge volume, only part of the volume or seasonally adjusted volumes. Volumes to be discharged as part of any alternative disposal option will be determined as part of the Stage 2 technical assessment, and would consider any increase in volumes arising from either the Rangiuru development and/or revised population projections and therefore increased wastewater volume.

The final agreed criteria scoring and options rankings are shown in **Table 5** below. Details of the next phase for assessing these alternatives are set out in Appendix I; and will include costs and economic factors, and a more site related focus. The ranking shown in Table 5 is based on non-cost attributes, however these will be re-assessed in terms of such financial factors including costs, economic aspects and land/site availability, which could lead to changes in the ranking for the preferred options.

Table 5 MCA Criteria Scoring and Options Ranking

#	Scenario	Assessment Criteria							Scores and Ranking	
		Goal Based Analysis Criteria - Independent of Cost							Overall Score of Analysis Criteria Excluding Cost	Rank
		Sustainability	Social / Public Health	Cultural	Planning and Regulatory	Technical / Functional	Operational	Environmental		
	Criteria Weighting	0.130	0.167	0.167	0.148	0.111	0.111	0.167		
1	Te Puke WWTP and discharge to Waiari Stream (BO)	3	2	1	2	5	5	3	2.80	6.00
2	Te Puke WWTP and discharge to Forestry Land (LF)	5	5	5	4	4	3	4	4.35	1.00
3	Te Puke WWTP and discharge to Horticultural Land (LH)	4	2	2	3	4	3	4	3.07	5.00
4	Te Puke WWTP and discharge to Recreational Reserve Land (LRR)	5	3	3	4	4	3	4	3.69	4.00
5	Te Puke WWTP and discharge to Wildlife Reserve Land (LWR)	5	4	4	3	3	3	4	3.76	3.00
6	Te Puke WWTP and discharge to Pasture Land (LP)	4	5	5	3	4	3	4	4.07	2.00
7	Te Puke WWTP and discharge to Ocean Outfall (OO)	2	2	1	1	2	4	3	2.07	8.00
8	Te Puke WWTP and discharge to TCC Te Maunga WWTP (TCC)	2	2	1	2	5	4	3	2.56	7.00

The top four ranked options, recommended to be carried forward to the Stage 2 Alternative Disposal Site Selection phase, are:

5. Te Puke WWTP and discharge to Forestry Land – LF
6. Te Puke WWTP and discharge to Pasture Land – LP
7. Te Puke WWTP and discharge to Wildlife Reserve Land – LWR
8. Te Puke WWTP and discharge to Recreational Reserve Land – LRR

Given that this investigative process requires a comprehensive approach over the next ten years or so for Stages 2 and 3, ample time is available for a robust assessment of the site constraints for each disposal option, as well as thorough research into the final scheme selection phase to confirm the preferred disposal site and scheme option.

Following on from this investigative phase, WBOPDC will then be in a position to commence all that is required to secure any new land required and initiate the tender process for design and construction. Overall, the time required to investigate, confirm, design, consent, construct and commission any preferred alternative disposal scheme is going to involve a highly lengthy period. Further, the treatment and disposal option for wastewater from the Rangiuru Business Park are yet to be investigated and may need to be included in this investigative phase as well. Other uncertainties arise from future growth possibilities for Te Puke urban areas, both residential and industrial, where certain areas may experience rapid and significant growth; as well as from any future changes to water quality standards in relation to the requirements of the NPS for Freshwater Management.

The investigation may identify a way to discharge all of the treated waste to an alternative site, or possibly a combination of some of the discharge continuing to the Waiari Stream riparian wetlands while the excess flow is discharged to an alternative property (thereby splitting the discharge). Whatever the outcome of these alternative investigations, it should be noted that there are still many variables to be addressed, cost implications to be factored in, and possible options such as a split discharge to be investigated further. In light of such uncertainties and the intention to continue using the Te Puke WWTP facilities, the 35 year period is crucial for certainty of operations and ongoing upgrades by WBOPDC.

Therefore, the maximum period of 35 years available under the RMA is required for renewal of the existing Te Puke WWTP resource consents to ensure that adequate time is available for WBOPDC to fully address all that is required to explore an alternative wastewater treatment and disposal option for Te Puke.

## 6.0 Consultation

Consultation has been undertaken to inform the Te Puke community, tangata whenua and stakeholders of the proposal and to provide opportunity for feedback discussion. Consultation undertaken to date is summarised in the Consultation Log – refer to **Appendix G** and has included two public open days (17 and 19 March 2016) and invitations to attend individual meetings if/as required. A number of individual meetings have subsequently been held throughout the consultation process and iwi/hapu groups have been engaged early on in the project to facilitate effective consultation. Parties consulted include:

- Te Maru o Kaituna – Kaituna River Authority
- Nearby Property Owners
- Tangata Whenua
- Bay of Plenty District Health Board
- Department of Conservation
- Fish and Game
- Quayside Properties (Rangiuru Business Park)
- Affco
- General Public

During this consultation phase with tangata whenua, stakeholders and the local community, a number of key issues were identified, including the following (but not limited to):

- Nutrient loading for the Kaituna River catchment, particularly related to total phosphates and nitrates;
- Past performance and compliance with consent requirements for water quality standards
- Back-up power generation
- Maintenance of wetlands, and opportunity to enhance/increase the wetlands;
- Advantage of 'rock maturation chamber' if wetland no longer required for WWTP;
- Nutrient uptake from wetlands;
- Effectiveness of UV disinfection on pathogens, viruses and bacteria;
- Impacts on Waiari Stream, habitat and fauna;
- Contamination of the Waiari Stream by various discharges in the local catchment;
- Discontinuing to discharge to the Waiari Stream receiving environment;
- Alternative discharge options;
- Reuse of water, reduction of grey water reaching WWTP
- Avoiding use of potable water for activities where grey water could be used instead;
- Trucking solids off site, and vermiculture
- Rangiuru Business Park, Affco and other industrial activities that can generate wastewater;

In response to the issues raised during the consultation phase, WBOPDC has considered the following aspects:

- Discontinuing the use of the wetlands within the WWTP site, and replacing them with a 'bank-side perforated diffuser pipe and rock passage chamber' after UV disinfection, that takes the treated wastewater underground to the riparian wetlands alongside the Waiari.
- Investigation of wetland enhancement opportunities, increased wetland provision and greater community connectivity with the wetlands, particularly where further community benefits may be possible, including (but not limited to):

- Native vegetation enhancement
  - Cultural and Medicinal value
  - Biodiversity enhancement;
  - Education opportunities for schools
  - Research opportunities for secondary and tertiary institutions
  - Food gathering, e.g. water cress
  - Eel farming opportunities
  - Amenity value
  - Improved connectivity for the local community (local cycleways, walkways, boardwalks)
- Investigation of other environmental enhancement works, including riparian bank improvements and planting of native species along the true left Waiari Stream bank that is within council ownership;
  - Liaison with stakeholders and community groups promoting cycleway and walkway connectivity in the vicinity of the WWTP, using the stop banks and surrounding road networks;
  - Monitoring for compliance with water quality standards (pathogens, nutrients, suspended solids) to be located immediately after UV disinfection, prior to other 'third party' influences/discharges in local catchment affecting sampling results;
  - Commitment to WWTP plant upgrades as recommended by council consultants and engineering team.

Further details on consultation outcomes with specific parties are identified below.

## 6.1 Tangata Whenua

Iwi and hapu groups with an interest in the area and the project and which have been consulted are Tapuika, Waitaha, Ngati Whakaue and Ngati Pikiao ki Maketu.

### 6.1.1 Tapuika

Initial contact was made and subsequent meetings were held with Tapuika representatives led by Mr Hohepa Maxwell; and a draft AEE circulated for review and discussion. Tapuika subsequently undertook to prepare a Cultural Impact Assessment (CIA) – refer to **Appendix G**. The CIA has recommended a number of consent conditions/mitigation measures and these include:

#### **Impacts on Sites of Significance to Tapuika**

- *Priority for two stage (A) Wetlands with (B) Rock Matrix filtration*
- *Site visit to be held with Tapuika representatives during the Detailed Design stage of the project to identify potential areas to avoid (in terms of excavation/deposition/machinery movement).*
- *Prior to and during any works, appropriate Tikanga is to be endorsed by Tapuika and Ngāti Tuheke, in regards to karakia me ngā Tikanga me ngā wairua mo Te mauri o Te awa.*
- *Onsite earthwork monitoring by approved Tapuika representatives before and during excavation.*
- *Accidental discovery protocols to be in place - via resource consent condition and in accordance with Te Taonga Tuturu Act - prior to the commencement of work (Tapuika are registered with the Ministry of Culture & Heritage as a collector of Maori artefacts). This protocol is to include the immediate notification of Tapuika representatives in the event that a site or objects of significance is discovered during works.*
- *Council contributes to Tapuika's cultural mapping programme to map and document the historical and contemporary significance of waahi tapu within this part of the rohe ink scape.*

#### **Impacts on Mahinga Kai and Taunga Ika Resources**

- *Consideration of timing and staging of works to minimise any impacts on fish passage, aquatic habitats and spawning areas.*

- *Tapuika are involved in wetland restoration planning to ensure that the enhancement of mahinga kai and cultural harvesting resources. This includes the ability to impart traditional knowledge in terms of wetland plant species and method of restoration.*
- *Inclusion of information / interpretation panels near the new/restored wetlands regarding the history and value of the area. Tapuika are to be involved in any planning associated with interpretation panels to ensure the accuracy of information.*
- *Tapuika are interested in any opportunities for the development of educational projects / resources and research developments that may transpire or associated to the project. This could include a partnership between Tapuika and Council in relation to mahinga kai restoration projects.*

Tapuika have also suggested a number of variations to the monitoring parameters that were proposed during the consultation phase. These have been taken into consideration and where applicable, varied accordingly – refer to CIA in **Appendix G** and the proposed consent conditions in section 9 of this report.

### 6.1.2 Waitaha

Initial contact was made and subsequent meetings were held with Waitaha representatives including Vivienne Robinson and Maru Tapsell; and a draft AEE was circulated for review and discussion. Waitaha also undertook to prepare a CIA. At the time of writing this has not been received but once available, it will be forwarded to Council under separate cover. There has been ongoing dialogue with Waitaha representatives in this regard.

### 6.1.3 Ngati Whakaue

Consultation was undertaken with Ngati Whakaue, including liaison with Maria Horne. Ngati Whakaue advised that they understood Tapuika would be providing a CIA, and they would await Tapuika's CIA; as this should suffice from their perspective.

### 6.1.4 Ngati Pikiāo ki Maketu and Ngati Pikiāo ki Tai

Initial contact was made and subsequent meetings were held with Raewyn Bennett as the Ngati Pikiāo ki Maketu representative, and then further contact was made with Roland Kingi on behalf of Ngati Pikiāo ki Maketu. Details of the draft AEE were circulated for review and discussion. Raewyn Bennett subsequently advised that a CIA will be prepared by Ngati Pikiāo ki Tai. At this point in time summary comments have been provided by Raewyn Bennett - refer to **Appendix G** – and the full CIA will be forwarded to Council under separate cover once available.

The main issues and methods to avoid, remedy or mitigate adverse cultural impacts, as indicated in the Ngati Pikiāo ki Tai summary comments, are as follows:

- *To ensure that there is appropriate ground treatment to avoid mixing of the Wastewater with Wai Maori for the Te Puke Wastewater Treatment Plant discharges to water.*
- *To have WBDC facilitate Ngati Pikiāo plans for mauri monitoring of the Kaituna River through resourcing, supplying appropriate information to assist and a willingness to co-operate in a partnership with Ngati Pikiāo in a Treaty based relationship which respects Ngati Pikiāo rangatiratanga. We note the inability to accurately identify the sources of pollution at the site of Kaituna/Waiari confluence and the degraded state of the Kaituna River at this site. Ngati Pikiāo wish to resurrect their matauranga Maori around the Kaituna waters also. Mauri monitoring and matauranga Maori knowledges are provided for in statutory documents.*
- *Certainty: We seek to ensure that the WBDC, through conditions, sets out a clear pathway for enhancing the quality of waterways through ongoing reviews of TP WWTP, and Councils long-term council plans. We do not think the present Council policies provide adequate certainty from Ngati Pikiāo's perspective, which is a concern. Neither is there certainty about developing Maori capacity to contribute to decision making, in this case on the WWTP.*
- *Certainty: The consent conditions need to provide certainty as to the WBDC's obligations for addressing water quality issues in the consent for the WWTP. Ngati Pikiāo expects to see provision for continuous improvements to water quality in the Waiari and subsequently the Kaituna. We do not accept that because it*

*is not easy to cite which pollution is due to the WWTP, that WBDC is absolved of addressing water quality issues per se to improve the receiving environment of the Waiari and Kaituna. We see this is a way of mitigating cultural impacts on the Kaituna River.*

- *Certainty. We seek to ensure certainty about Ngati Pikiao's ongoing involvement in the adaptive management processes (explorations of other WWTP options) being proposed in the consent application. That is, the proposed consent conditions must provide for Ngati Pikiao to be able to apply for a review of the Consent conditions when Ngati Pikiao is or has identified the potential to be, negatively affected. There needs.*

## 6.2 Te Maru o Kaituna – Kaituna River Authority

Initial contact was made with Dean Flavell, as the chairperson for Te Maru o Kaituna, and opportunity has been made for further meetings. The draft AEE was also sent to Te Maru o Kaituna. At this stage, no specific feedback has been received.

## 6.3 Bay of Plenty District Health Board

A meeting was held on 11 April 2016 with Annaka Davis as the representative of BOPDHB; and the draft AEE was provided for review purposes. Annaka Davis identified a number of key issues that BOPDHB would be seeking to have addressed, as set out below:

*To provide confidence that public health will be protected from the continuation of wastewater and air discharges we would expect to see:*

- *That the discharges to water do not render recreational water used for bathing or the collection of wild food to be unfit for consumption.*
- *That the discharges to air from the treatment of sewage go past the boundary of the property.*
- *Regular improvements to municipal wastewater systems such as the level of treatment and monitoring parameters.*
- *Regular and thorough reviews of the treatment system to ensure the most up to date technology and research are utilised.*
- *A multi-barrier approach to system failure that leads to partially or untreated sewage being discharged.*
- *Measures to prevent unauthorised access to the WWTP sites.*
- *Assessment of the impacts of climate change will have on the treatment plant and disposal system over the duration of the consent.*
- *Monitoring frequency sufficient to provide assurance the plant is operating effectively and efficiently at all times.*
- *The discharge quality include a maximum bacterial limit to identify inadequate treatment issues and provide an assurance that monitoring is identifying an accurate reflection of wastewater quality.*
- *Monitoring limits which trigger investigation of potential non-compliance throughout the treatment process.*
- *The correct and up to date bacterial indicator parameter used and in the correct sampling situation. E.coli is the preferred effluent quality parameter.*
- *UV treatment should have online monitoring of turbidity and transmissivity to ensure the UV treatment unit operates effectively and as planned for.*
- *Contingency measures to reduce unplanned overflows or partially treated effluent discharging and how these will be responded to.*
- *Contingency measures should odour be discharged beyond the boundary and how such incidents will*
- *a minor environmental consequence has the potential to present a public health risk of varying degrees.*
- *We suggest that public health input be sought early on in the process when considering discharge alternatives be responded to.*
- *An escalation response process to address odour beyond the boundary and also complaints relating to odour*
- *Scoping and planning future options to manage sewage sludge treatment and/or biosolid disposal for the duration of the consent sought.*
- *Both plants and disposal sites currently have dwellings located nearby. Odour from sewage treatment is by its very nature offensive and will have a low acceptance threshold by the public. Measures to manage odour and prevent health nuisances caused by odour should be included in the applications. Management strategies to secure sufficient area to create effective buffer zones around each plant to safeguard the wastewater plants in the future from land use change and intensification.*
- *Notification to the Medical Officer of Health of discharges from the reticulated network or directly from the plant of partially or untreated wastewater. This is because a non-compliance that may be deemed to have from the Katikati WWTP.*
- *The Te Puke application includes an assessment of any downstream abstraction points that take water for domestic purposes.*

These matters have been addressed through the technical specialist reports in Appendices E (Public Health Assessment) and F (Water Quality, Stream and Terrestrial Ecology Assessment), and through consideration of WWTP upgrades and operational measures required to maintain water quality and the receiving environment. The aspect of uncertainty regarding Rangiuru Business Park was also raised, and Annaka Davis noted that "From a public health perspective, the more people connected to a professionally operated reticulated system which provides a centrally based treatment and disposal, the more protective of health. To have multiple individual treatment and disposal systems reduces separation distances and therefore increases the opportunity or risk that people will come into contact with sewage. We therefore encourage council and support the extension of council owned and operated reticulated wastewater systems." This position has been noted; and further liaison with Quayside Properties has been undertaken to consider how best to keep this option open, given that the timing and scale of development likely at Rangiuru Business Park is not known with any certainty at this stage. However, it is anticipated that such development may well commence in the near future.

#### **6.4 Quayside Properties: Rangiuru Business Park**

Consultation was undertaken with Quayside Properties through provision of draft AEE details, email communication and a meeting with Scott Hamilton on 30 March 2016 at the Quayside Office. At the meeting, there was further discussion on options for treating and disposing wastewater at Rangiuru Business Park which included the possibilities of piping it to Te Puke WWTP, or alternatively addressing this on-site. The options considered to date include the potential use of a type of Sequential Batch Reactor (SBR) approach for any staged development. The timing for future development is not certain but expected in the near future; and likely to comprise food related industry, and maybe cool stores facilities.

It was also recognised that the consent renewal application for Te Puke WWTP is to maintain the currently consented discharge volume of 9,000m<sup>3</sup> and that tighter water quality standards are being recommended. This is relevant to Rangiuru Business Park should it be preferable to pipe wastewater to Te Puke WWTP, provided there is capacity available at that time. In this regard, WBOPDC also noted that to meet the water quality standards of their consent conditions, the influent wastewater generated by Rangiuru Business Park may require some form of pre-treatment prior to acceptance at the WWTP facilities. This is to ensure any waste related to industrial operations does not adversely affect the WWTP operations, particularly for any Anoxic and/or Aerobic processes.

#### **6.5 Department of Conservation (DOC)**

There has been consultation undertaken with representatives from DOC including discussions and provision of draft AEE documentation, as well as an invitation for individual meetings. A meeting was held on 7 April 2016 with Mark Anderson at the DOC office in Greerton, where an overview of the proposed consent renewal and environmental effects assessment for the Te Puke WWTP was provided. No further issues have been raised by DOC at this stage.

#### **6.6 Fish and Game**

There has been liaison with representatives from Fish and Game, provision of draft AEE documentation, and opportunity provided for attendance at public open days and an individual meeting. Feedback was provided by Mr John Meikle, on 3 May 2016, by way of a telephone discussion which highlighted the following aspects:

- Nutrient loading: there is a concern that large amounts of phosphates and nitrates are entering the receiving water body catchment, and the WWTP is contributing to this aspect too.
- Avian Botulism: An Avian Botulism Management Plan is required to address such aspects as wildfowl activities and quick removal of any dead birds, and clean up procedures around the wetlands .
- Emergency back-up systems: Contingency measures for any plant break downs, and emergency storage provision.
- UV disinfection: need a clear understanding of how effective the UV disinfection system is, with any helpful comparison to other relevant examples.
- Historic sampling data: Any irregularities should be addressed, as this calls the integrity of sampling into question and undermines confidence.
- Stakeholders to be notified: Request that notice be served directly on all stakeholders when application(s) notified.



As noted above, the aspect of nutrient loading has been addressed through the assessment in Appendix F (Water Quality, Stream and Terrestrial Ecology Assessment), and through consideration of WWTP upgrades and operational measures required to maintain water quality and the receiving environment. It is also recommended that more stringent levels be set for the water quality standards to be met within the receiving environment of the Waiari Stream; and that the upgrades required to meet more stringent standards be completed within five years. Further it is now recommended that monitoring of phosphates be included, as this has not been required in the past.

WBOPDC can prepare an Avian Botulism Management Plan for the wetlands at the WWTP as requested, and this could be included as a condition of consent for the discharge aspect related to the constructed wetlands. In this regard, we note that it is also recommended to remove these wetlands from the WWTP system and replace them with the 'rock passage chamber' and a 'bank-side perforated diffuser pipe'.

In considering future upgrades, WBOPDC has also recognised the need to review the need for emergency storage provision. WBOPDC has systems in place for emergency break-down situations as part of the Operation, Maintenance and Environmental Plan (OMEP) for Te Puke WWTP.

Details on the UV disinfection and effective application rate are in Appendix E (Public Health Assessment), with a description of how the UV disinfection has been upgraded recently, and how this has made a significant improvement for water quality in the receiving environment. It is also recommended that monitoring and compliance with water quality standards be immediately after the UV disinfection and prior to any discharge into wetlands, for ease of determining compliance with consent standards. This is because it is recognised how wildfowl activities, particularly waste from birds and also any other rodents in the wetlands can result in increased faecal coliform counts in the receiving environment, this being a factor beyond the control of WBOPDC in monitoring compliance for the treated discharge from Te Puke WWTP. This approach also helps to ensure consistency in sampling and monitoring data.

## **6.7 General Public including Nearby Property Owners**

The Te Puke WWTP Public Open Days were held on 17 and 19 March 2016, and advertised with public notices on WBOPDC web-site, in Te Puke library and also being advertised in the Weekend Sun (4.3.16). A number of people attended on both occasions, generating much discussion and feedback comments.

The range of issues raised during the public meetings are set out above, and included such aspects as nutrient loading for the Kaituna River catchment, particularly related to total phosphates and nitrates; compliance aspects; emergency provisions; wetland maintenance/enhancements; effectiveness of UV disinfection on pathogens, viruses and bacteria; adverse effects on the receiving environment and mitigation measures/alternatives. Other aspects raised included discussion on trucking solids off site, and vermiculture; as well as the uncertainties of Rangiora Business Park, Affco and other industrial activities that can generate wastewater.

With regards to the nutrient loading, it is now recommended that total phosphorous (TP) be monitored, as this has not been recorded in the past. It is also recommended that more stringent levels be set for the water quality standards and that future upgrades be considered as population growth occurs over time, with all the associated increases in nutrient loading. Note as part of the suggested consent conditions it is being recommended to remove the requirement for post-UV effluent testing for DRP, currently standard 20g/m<sup>3</sup>, and instead test for TP at a recommended standard of 15g/m<sup>3</sup>

It is also recognised that between the Waiari Stream up and down stream sample locations, there are a number of other point and diffuse sources of nutrients, and other monitored contaminants, including the wetland itself, farm drains and general rural/ agricultural runoff. Therefore without site specific TP data of the treated effluent there are no specific conclusions that can be made at this stage regarding the relative contribution of TP by the WWTP to the Waiari Stream.

With regards to concerns about past performance of the WWTP and any exceedances of water quality standards, we note that WWTP effluent spikes in faecal coliform count can occur for a number of reasons including maintenance activities, process interruption (planned and unplanned), influent spikes and extreme weather events. The current consent conditions require a median faecal coliform limit of 200 cfu/100ml with a maximum limit of 1000 cfu/100ml. Of the 167 samples collected during the 2012 to 2015 assessment period 8 events exceeded consent condition 6.9 for maximum number of faecal coliforms in one sample (shall not exceed 1000 per 100ml). Of these eight non complying events, four occurred in 2012, and three in 2013 (May and August) all pre prior to the UV upgrade in 2013; with only one exceedance in 2014 with a count of 2,400cfu/100ml after the

UV upgrade; indicating an ongoing improvement in compliance with this consent condition and demonstrating the benefits of the UV upgraded.

Further, all these results are for the post-UV treated effluent prior to entering the wetland and being discharged into and diluted by the Waiari Stream flows. Once the dilution factor is applied, that is the post-UV sample is adjusted to reflect the dilution achieved following mixing in the Waiari Stream, the maximum (extreme) recorded faecal coliform count of 20,400 cfu/100ml equates to 121.24 cfu/100ml, well below the MfE recreational guideline and NPS of 412cfu/100ml. The corresponding undiluted faecal coliform count of the wetland discharge entering the Waiari Stream was recorded at 530cfu/100ml, when adjusted for dilution this would equate to 3.15 cfu/100ml, again well below the MfE recreational guideline and NPS.

Further details on consultation, issues and feedback comments are contained in the *Issues Raised and Responses* document in **Appendix G**.

## 7.0 Assessment of Environmental Effects

The following is an assessment of actual and potential environmental effects in terms of those effects relating to the continued operation under existing consents 02 4891, 02 4889 and 03 0135, pursuant to s124(1)(d) RMA; the retention of the existing discharge limit of 9000m<sup>3</sup>/day; the discharge to air from the WWTP; and for a term of 35 years.

### 7.1 Public Health

**Appendix E** contains the Public Health Assessment undertaken by AECOM. The report summarises that, *'Based on a qualitative public health risk assessment, the microbial water quality within the receiving waters (Waiari Stream and Kaituna River) is not expected to be adversely impacted by the wastewater discharge from Te Puke WWTP. This is due to the high dilution factors that are likely to be achieved within Waiari stream and subsequently in Kaituna River. This however does not take into account of the pathogen input of grazing animals, birds, and rodents that may raise the bacteriological level within the wetland.*

*This study also presents a quantitative microbial risk assessment (QMRA) of potential human health adverse effects by the Te Puke WWTP effluent discharge. The study follows the risk assessment paradigm for human health effects and estimated the Individual Infection Risks (IIRs) and gastrointestinal illness risks considering various scenarios and likely fate and transport patterns of the pathogen (rotavirus). Various conservative approaches have been adopted in this QMRA study, which need to be taken into consideration when interpreting the results of this study. For instance, the rotavirus load in the raw wastewater was assumed to be 10 times higher than that adopted by previous QMRA work by others. No viral die-out was considered in this study, and the viral reduction rates through the WWTP unit processes were also set at much lower levels compared to some other QMRA studies previously completed in NZ. These provide a larger safety margin when assessing the potential public health risks arising from the WWTP effluent discharge and contribute to an overall conservative approach.*

*The guideline or threshold values used for the risk assessment were obtained from Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas (MfE/MoH 2003). The guideline specified a 0.1 % infection occurrence risk as no-calculated-risk level for freshwater or a 1% gastrointestinal illness (GI) risk to be associated with no-observed-adverse-effects level (NOAEL) for marine water. This level of infection or illness risk is classified as "very good" grading for recreational water. This study adopted these threshold values and compared the calculated IIRs with the 0.1% occurrence risk and the estimated gastrointestinal illness risks with the 1% GI illness risk.*

*The dilution factors were shown to reach over 150 in Waiari Stream and over 1500 in Kaituna River. This significantly reduces the health risks downstream of the discharge point. The QMRA modelling showed that public health risk associated with recreational use of both Waiari Stream and Kaituna River is no more than minor (below the non-calculated-risk level).'*

The water quality from the WWTP, after UV disinfection is adversely affected by other factors within the wetland system, e.g. local bird life and rodents, which may contribute to an increased faecal coliform count in the treated effluent seeping through the riparian wetlands to the Waiari Stream. It would be foreseeable to replace the wetlands with a different 'discharge to land' option using a re-constructed bank-side perforated diffuser pipe and a rock passage / underground rock maturation cell system located along the river bank (refer section 6.2 of report in **Appendix H**). This would avoid any contact with potential influences such as birds and rodents.

The assessment establishes that after reasonable mixing within the Waiari Stream, there are minimal adverse effects on swimming and food gathering related to the discharge of treated wastewater from the WWTP.

Additionally, the Maketu estuary is further downstream and not affected by the discharge from the Te Puke WWTP either. The Water Quality and Public Health assessments attached to this report indicate that, amongst other factors, given the significant dilution factors of the Waiari Stream and Kaituna River, the Te Puke WWTP is unlikely to be having an adverse effect on the Ongatoro/Maketu estuary water quality; and any health warning/shell fish bans are likely triggered by other factors mentioned i.e. the significant presence of surrounding agricultural practices including farm drains with concentrated farm runoff.

The qualitative public health risk assessment indicates that the microbial water quality within the receiving waters (Waiari Stream and Kaituna River) is not expected to be adversely impacted by the wastewater discharge from Te Puke WWTP. Therefore, any adverse effects on public health re considered to be minimal.

## 7.2 Air Quality/O odour

**Appendix D** contains the Air Quality Assessment undertaken by AECOM. AECOM has assessed the potential for odour nuisance from the plant using the FIDOL (Frequency, Intensity, Duration, Offensiveness and Location) assessment tool. The report summarises that, *'AECOM has assessed the potential for odour nuisance from the plant using the FIDOL assessment tool. Taking all of the factors into account, AECOM does not consider that off-site odours from the normal operation of the Te Puke WWTP will be offensive or objectionable. This is supported by the lack of odour complaints recorded by WBOPDC, frequency of meteorological conditions which have the potential to cause odour nuisance and the buffer distance that exists around the plant. AECOM does however recommend that biosolids loads are covered to further reduce the potential for off-site odour. AECOM also recommend that the buffer area provided by the existing designation is retained and that consideration is made to further increase the buffer area around the plant to protect it from the potential for reverse sensitivity effects associated with any future residential development.'*

In this regard, it is noted that reverse sensitivity is addressed through the combination of rural zoned land surrounding the WWTP site and this buffer area; thereby preventing the possibility of intense residential development encroaching too close to the WWTP and raising issues regarding adverse odour, noise, amenity or visual effects. Much of the rural zoned land nearby to the WWTP is low lying with a flood hazard, hence it is unlikely for intensive residential development close to the WWTP site.

On this basis, the adverse effects of any air discharge, as a result of the Te Puke WWTP operation and in accordance with the recommended conditions, are not considered to be offensive or objectionable.

## 7.3 Archaeology/Heritage

No archaeological/heritage feature will be affected by the continuation of the existing, consented operation of the WWTP. In addition, there will be no changes to the operation of the WWTP which would affect any archaeological or heritage feature.

## 7.4 Water Quality

Presented in **Appendix F** is the Water Quality Assessment undertaken by AECOM. The report indicates that *'The surface water quality assessment has focused primarily on the Waiari Stream as this is the direct receiving environment of the WWTP treated effluent discharge and localised water quality has been monitored consistently for over 10 years. The AECOM 'snap-shot' sampling of the Kaituna River showed no significant variation between up and downstream results from the Waiari Stream confluence in the Kaituna River.*

*The Waiari stream is located in a rural catchment which is dominated by pastoral farming activities. This type of land use is known to result in degradation of stream values through reductions in riparian vegetation, stock access to stream banks, and high nutrient loads from stock urine and fertiliser usage. Faecal contamination is also prevalent. The historical water quality monitoring data for the Wairai Stream aligns with this typical pattern and shows a nutrient enriched environment due to the total nitrogen and total phosphorus concentrations from both the Waiari Stream upstream and downstream sample locations.*

*The WWTP discharge also is contributing to the nutrient enrichment, however further analysis of the contribution made by the treated effluent (post UV) indicates other contaminant sources within the wider catchment are also significant contributors to the enrichment of the Waiari Stream. Waiari Stream (up and downstream) total nitrogen, total phosphorus, nitrate-nitrogen and dissolved reactive phosphorus (DRP) concentrations consistently exceed the ANZECC default trigger values for NZ slightly disturbed ecosystems. As shown in Table 9 [refer report in **Appendix F**] above the nutrient mass load calculations show the current percentage contribution of the WWTP treated effluent to the difference in upstream and downstream mass loads is 40% for total nitrogen and 30% for DRP. This indicates the majority of nitrogen and DRP input to the downstream nutrient load is coming from other sources within the catchment.'*

These results support the observations and results of the stream and terrestrial ecology assessments of a watercourse impacted by both the surrounding agricultural practices and the existing discharge of the WWTP. The investigation showed that water quality immediately downstream of the Te Puke WWTP was further affected by other discharges from nearby farm run-off and a larger farm drain with concentrated farm runoff.

The water quality monitoring results for the Kaituna River show that the discharge of the Waiari Stream is having a minimal effect on water quality in the Kaituna River. This aligns with the ecological assessment which states that the results also indicate that there appears to be little ecological difference between the upstream and downstream sites within the Kaituna, suggesting that the Waiari Stream discharges are having minimal effect on this larger watercourse. From these findings, it is considered that the operation of the WWTP is having a negligible effect on the water quality within the Ongatoro/Maketu estuary.

On this basis, the adverse effects on Water Quality, as a result of the current and proposed Te Puke WWTP operation, are considered to be minimal, particularly given that the proposed upgrades will ensure that the water quality monitoring parameters (as included within the recommended conditions of consent) will be achieved.

## 7.5 Stream Ecology

Presented in **Appendix F** is the Stream Ecological Assessment undertaken by AECOM. The report summarises that, *'Overall the results from the ecological survey show that there are significant differences between the Waiari Stream and the Kaituna River, however with good agreement when comparing the upstream and downstream locations. The ecological variations between the two watercourses are mostly related to the physical habitat abundance, diversity and the substrate type. As the stream bed at the Kaituna River was a silty/mud substrate, the majority of the stable habitat that was sampled was completely submersed in sediment.'*

*The biological results from the Kaituna River are very comparable between the upstream and downstream sites, with both sites showing 'probable severe pollution' or 'poor' quality. The results from the Waiari Stream show a slight disparity between the upstream and downstream sites, with the upstream site indicating a stream of 'good' and 'excellent' quality, while the downstream site a stream of 'fair' to 'good' quality. These differences could be attributed to a potentially contaminated source or discharges from the WWTP, however, it is also likely that the decreased water quality at the downstream site is associated with sampling methods and the type and condition of the substrate sampled at the time.*

*While the Waiari Stream is generally in good health, the Kaituna River is of poor health, and typical of low lying streams and rivers draining predominantly agricultural catchments.'*

These results indicate similarities with those factors affecting water quality i.e. that the watercourse is highly impacted by the surrounding agricultural practices on top of the existing discharge from the WWTP and that these other practices affect stream ecology.

On this basis, there are no significant adverse effects on stream ecology, as a result of the Te Puke WWTP operation.

## 7.6 Terrestrial Ecology

Presented in **Appendix F** is the Riparian Ecological Assessment undertaken by AECOM. The report summarises that, *'Based on the assessment undertaken by AECOM on 30 June and 1 July 2015, there is little evidence to suggest that the existing Te Puke WWTP is having any environmental impact on the terrestrial ecology of the receiving environment. The terrestrial ecology at all of the sites was dominated by exotic species, namely clusters of crack willow and pampas as the canopy and reed sweet-grass, willow weed and long grasses as ground cover. Both of the watercourses at the site locations were completely fenced off from stock, however the margins were very narrow and with the terrestrial vegetation at being significantly impacted by the highly modified surrounding rural environment.'*

On this basis, the adverse effects on terrestrial ecology, as a result of the Te Puke WWTP operation are considered to be minimal.

## 7.7 Hydrology (Groundwater)

Presented in **Appendix F** is the Groundwater Assessment undertaken by AECOM. The report summarises that, *'The inflow of treated wastewater into the wetland results in elevated water levels within the wetland relative to the surrounding groundwater levels, this mounding of water, creates hydraulic gradients downwards and outwards from the wetland and is expected to generate flow of treated wastewater into the surrounding shallow*

*groundwater system. Inferred to flow primarily through the coarse sand lenses, the influence of this treated wastewater is evident with the quality of groundwater samples collected from the site monitoring wells.*

*Treated wastewater is expected to flow radially outwards from the wetland. However, due to the inferred groundwater flow being towards the stream, it is expected that the influence of treated wastewater on groundwater will be limited to within the immediate vicinity of the wetland.*

*The significantly slower rate of flow of impacted groundwater to the stream, relative to surface water discharges, is also expected to enable additional attenuation of microbiological contaminants and nutrients prior to discharge to the stream; to some extent this provides additional polishing of water quality exiting the wetland.*

*The surrounding land-use, which comprises farming activities, also typically contributes to nutrient loading on groundwater. However, it is unclear from the available information to what extent background groundwater quality is already impacted by nutrients. Regardless of the extent to which groundwater is locally affected, the receiving environment of the affected groundwater is the same as the treated wastewater discharge ie: to the Waiari Stream and the relative health of the stream is discussed elsewhere in this report.*

*Overall, it is considered that effects to groundwater are relatively limited since they are so localised.'*

On this basis, the adverse effects on groundwater, as a result of the Te Puke WWTP operation, are considered to be minimal.

## 7.8 Cultural Effects

A CIA report has been received from Tapuika Iwi Authority which highlights a number of recommendations relating to both the Te Puke WWTP and to wetlands enhancement opportunities. The CIA also recommended significant reductions in the levels set for water quality parameters and Council has provided an initial response which indicates how best to address such reduced levels. Council has proposed that the water quality levels be monitored over the next six years and reassessed as part of the proposed technical review to determine if any further reductions can be consistently achieved. With regards to TSS, Council determined to reduce the level proposed from 30g/m<sup>3</sup> down to 25g/m<sup>3</sup> as an immediate response to the Tapuika CIA report. Further CIA details are in **Appendix G**.

Ngati Whakaue indicated that Tapuika were the appropriate iwi authority to comment on the potential adverse environmental effects related to the Te Puke WWTP, on the Waiari Stream receiving environment. Maria Horne confirmed that Ngati Whakaue has an interest in the wider receiving environment, particularly for the Kaituna River and downstream Ongatoro/Maketu estuary.

A summary statement was received from Raewyn Bennett on behalf of Ngati Pikiao ki Tai, which highlighted the need for the Te Puke WWTP to adequately address such matters as water quality, appropriate ground treatment to avoid mixing of the wastewater with Wai Maori, as well as making provision for mauri monitoring near the Kaituna/Waiari confluence. Further details are in **Appendix G**.

There has been consultation with representatives for Waitaha, including discussions with Maru Tapsell, Darlene Dinsdale and Vivienne Robinson regarding the preparation of a CIA. During these discussions various issues have been raised regarding water quality, cultural monitoring, a Kaitiaki Advisory Group and other matters of cultural significance. A CIA is under preparation to address such matters and will be provided under separate cover once available.

Te Maru o Kaituna has been kept informed of progress regarding the assessment of environmental effects for the proposed consent renewals, given that they are the River Authority for the Kaituna River. At this stage, no issues have been raised.

In light of the issues raised by the respective iwi/hapu groups, it is recommended that these issues be addressed through various consent conditions. Accordingly the consent conditions proposed as set out in section 9 of this report provide for tangata whenua involvement, provision of monitoring details to iwi/hapu groups and a Kaitiaki Advisory Group.

## 7.9 Summary Comments

Overall, given the assessment undertaken in this section and the associated specialist reports prepared to support the application, it is considered that the continued operation of the Te Puke WWTP including all related upgrades proposed in the future, will not result in significant adverse effects on the environment. The proposal involves removing the wetlands and replacing them with a bank-side perforated diffuser pipe and a rock passage chamber system. This provides for greater community involvement with the wetlands, while maintaining appropriate ground contact for the treated wastewater thereby addressing cultural concerns.

There are a number of other benefits associated with this project including (but not limited to) riparian bank enhancement works, greater community involvement through the proposed cycleway/walkway and wetland enhancement opportunities. Refer to **Appendix B** for plan details showing the proposed cycleway/walkway and other proposed community initiatives.

With regards to maintaining water quality within the Waiari Stream receiving environment and downstream Kaituna River catchment, WBOPDC is aiming to achieve this through the combination of mitigation measures proposed, WWTP upgrades identified, more stringent levels for water quality to be met, and the various environmental enhancements presently under consideration by council.

On balance, given the continued ability of the WWTP to service the wastewater requirements of the Te Puke community and also provide for further population growth; and the positive benefits identified above, the effects are considered to be acceptable.

## 8.0 Statutory Framework

### 8.1 Consents Required

The Te Puke WWTP resource consents 02 4891, 02 4889 and 03 0135 (refer **Appendix C**) expire on 30 November 2016. WBOPDC therefore seeks to replace this consent for a period of 35 years. No further consents are being sought at this time.

This section sets out the relevant statutory provisions requiring consideration under the Resource Management Act (1991) and the relevant regional statutory documents:

- The New Zealand Coastal Policy Statement;
- The National Policy Statement for Freshwater Management;
- Operative Bay of Plenty Regional Policy Statement;
- Operative Bay of Plenty Regional Water and Land Plan;
- Operative Bay of Plenty Regional Air Plan; and
- Operative Regional Coastal Environment Plan.

### 8.2 Resource Management Act 1991

#### 8.2.1 Part 6 – Resource Consents

##### Section 104 Consideration of applications

This application has been prepared in accordance with section 104 of the RMA and the report takes into account the national environmental standards, other regulations, and national policy statements relevant to this application. The relevant provisions of the Regional Policy Statement, Regional Air Plan and Regional Water and Land Plan are set out below.

Under s104 RMA, the consent authority is, subject to Part 2, to have regard to the actual and potential effects on the environment of allowing the activity, any relevant planning documents, and any other matters considered to be relevant before exercising an overall broad judgement whether or not to grant the application.

In this regard, the assessment requires a comparison of the overall benefits of retaining the WWTP activities as proposed, with any adverse effects on the environment. The Assessment of Environmental Effects in section 7 demonstrates that the actual and potential effects of the WWTP discharges on the existing environment will not be significant, given the mitigation measures and upgrades proposed for the Te Puke WWTP.

To make that comparison the character of the existing environment is to be considered initially. The existing environment in this case is the environment as it exists today, with the WWTP operating and discharging wastewater to the wetlands adjoining the Waiari Stream. It is not the environment as it may have been many years ago before the WWTP was established, or the environment as it might be at some point in the future if, for example, substantial change has occurred.

Case law has indicated that the adverse effects of the proposal are those effects that are not already impacting on the environment (Rodney DC v Eyres Eco-Park Ltd [2007] NZRMA 1 at paragraph 38).

In the case of the Environment Court decision of “Marr et ors V Bay of Plenty Regional Council [2010] NZEnvC 347 (relating to discharges from the Tasman Mill in Kawerau), the court considered the meaning of “existing environment” and concluded that the existing environment in that case “must take into account the effects which have already occurred from lawful discharges from the Tasman Mill to date.”

In this regard, the Te Puke WWTP has obtained consent for a lawful discharge of treated wastewater to the Waiari Stream via the wetlands, and this application seeks consent to continue into the future.

It is possible for comparison purposes to consider what the environment would look like if this application is not granted (i.e. with the WWTP not operating and continuing to discharge treated wastewater). However, given that the WWTP is legally established and intends to upgrade its operations, it is intended that the WWTP is to remain for the long term.



Under Section 104(2A) of the Act, the consent authority must have regard to the value of investment of the existing consent holder, when considering an application affected by Section 124 RMA. In this regard, significant investments have been made by WBOPDC to establish and maintain the existing system, with a replacement value of \$15.8M; and further investment is proposed to upgrade the WWTP facilities/operations in the future. Further details are available from the current Long Term Plan regarding intended upgrades.

WBOPDC intends to continue the WWTP operations at Te Puke for the long term, thereby ensuring a good return on the significant level of investment made by council, on behalf of their local community/ratepayers.

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

After considering an application for resource consent for a discretionary or non-complying activity, a consent authority may grant or refuse the application, and if it grants the application, may impose conditions under Section 108.

#### **Section 105 Matters relevant to certain applications**

This application is for a discharge permit, and the consent authority must, in addition to the matters in section 104(1), have regard to—

- *the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and*
- *the applicant's reasons for the proposed choice; and*
- *any possible alternative methods of discharge, including discharge into any other receiving environment.*

The following comments are made with regard to these matters:

- The nature of the discharge is described as follows: the discharge of treated wastewater from the WWTP is initially to wetlands, with seepage through to the riparian wetlands alongside the Waiari Stream, prior to diffuse seepage into the Waiari Stream. This location is approximately 2km upstream to the Kaituna confluence. The Maketu/Ongatoro Estuary is located further downstream to the north, beyond the point where the Kaituna River re-diversion is proposed.
- The sensitivity of the receiving environment has been described in section 7 of this report and the corresponding technical reports in the associated appendices. It is noted that the Waiari Stream watercourse and the Kaituna River is highly impacted by the surrounding agricultural practices on top of the existing discharge from the WWTP and that these other practices affect the sensitivity of the receiving environment e.g. in terms of stream ecology.
- WBOPDC's (the applicant's) reasons for the proposed choice are based on a number of factors including the long term intention to keep on treating wastewater at the Te Puke WWTP, thereby giving a good return on the significant investment made by WBOPDC on behalf of their local community/ratepayers. WBOPDC has made both a significant investment in the WWTP facilities over time and continues to do so.
- This approach to continuing with treatment at the Te Puke WWTP does not, however, preclude consideration of alternative methods of discharge nor discharge into any other receiving environment, pursuant to s105 RMA. This matter was raised with Iwi/Hapu representatives who supported the investigation of alternative disposal methods and ways to either remove the discharge from the Waiari Stream or to identify an alternative disposal method/site for any additional volume in the future. At this time, a number of variables were noted, including the possibility of Rangiora Business Park piping wastewater to the Te Puke WWTP and also the possibility of much increased wastewater volumes from new industrial or commercial development in and around Te Puke.
- In light of the discussions regarding alternative disposal methods, various options were identified, as follows:
  - At a site specific level, the option of no longer disposing treated wastewater to the constructed wetlands was considered. The alternative use of a 'bank-side perforated diffuser pipe and rock passage chamber' was proposed instead of using the wetlands. This 'rock passage chamber' alternative ensures that cultural concerns are addressed with a discharge being to land rather than directly into water. The 'rock passage chamber' also involves being constructed underground, thereby avoiding any contact with bird life and other fauna (rats and other rodents) which have the potential to

alter water quality through their waste, with a resulting increase in associated pathogens. This approach has a further benefit for monitoring and compliance, as the water quality after treatment is easily measured immediately after UV disinfection. At present, the waste from bird life and other fauna within the existing wetlands influence the level of pathogens and increase the faecal coliform counts prior to discharging into the riparian wetlands alongside the Waiari Stream. The 'rock passage chamber' avoids this occurring, and takes the treated wastewater directly underground to the riparian wetlands alongside the Waiari Stream.

- After considering requests from local community members and Tangata Whenua representatives seeking greater connectivity with the wetlands (cycleways/walkways), and enhancement of wetlands (biodiversity, indigenous species) and greater community access/use of the wetlands (food resources, community and educational benefits) WBOPDC agreed to consider how best to decouple the wetlands from the WWTP system; and then how best to replace them with the 'rock passage chamber' and the 'bank-side perforated diffuser pipe' system for the discharge of treated wastewater. This approach has many advantages over the current wetland system, and has been recommended as part of this s124 consent renewal application as one of the proposed upgrades required for the plant.
- During the preparation of the AEE, WBOPDC considered a range of other methods for disposal as an alternative to continuing with the existing discharge to the Waiari Stream receiving environment. Given that WBOPDC has made a significant investment in the Te Puke WWTP and intends to continue treating wastewater here for the long term, the alternatives considered involved piping the treated wastewater from the WWTP at Te Puke to a different location for disposal. The options considered are as follows:
  - New Ocean Outfall
  - Link to the TCC Te Maunga WWTP
  - Disposal to land:
    - Forestry Land
    - Horticulture Land
    - Recreational Reserve Land
    - Wildlife Reserve Land
    - Pasture Land
- In considering these alternative disposal options, it was recognised that there would be considerable costs involved, consultation required, and further investigations for a new pipeline route and suitable alternative sites. The assessment for these alternatives is set out below:
  - The option of a new ocean outfall would require Tangata Whenua and community involvement, particularly in relation to the pipeline route and location for the off-shore discharge outfall. There is likely to be considerable opposition to an ocean outfall, and it would be a significantly costly option to construct. While a discharge to the marine environment is an effective method for discharge, and is not uncommon in the Bay of Plenty, it is recognised that both Tangata Whenua and local community members are generally not supportive of ocean outfalls near their beaches where they enjoy recreation and fishing activities.
  - Piping the treated wastewater back to the TCC WWTP at Te Maunga would require a new pipeline for the linkage to Te Maunga WWTP prior to discharging into the marine environment. This option would require further investigations into a pipeline route, costs of construction and maintenance and confirmation of capacity at Te Maunga. There is also the same aspect of Tangata Whenua and local community members generally not being supportive of ocean outfalls.
  - Disposal to land also requires a pipeline route to be investigated, as well as identification of possible alternative sites that may be suitable.
  - If the disposal is to forestry land, then further work is required to determine both which sites may be suitable, and also if the mechanism for discharge to forests is effective for the long term. In this regard, Rotorua Lakes District Council is now moving away from the discharge to forestry

land as this is no longer sustainable for the long term future. Therefore, finding an alternative forestry site for disposal needs to consider long term capacity carefully.

- The alternative to horticulture land also requires identification of suitable areas and a willingness from orchardists and horticulture operators to receive the treated wastewater, as well as construction of the associated pipeline.
  - Disposal to recreation land has the benefit of re-using treated wastewater on sports grounds and council owned reserves. Further work would be required to identify suitable reserve areas of adequate size and capacity for both current and future volumes; as well as investigating where the necessary trunk main(s) and reticulated pipelines would be required.
  - Disposal to the Wildlife Reserve land has the benefit of maintaining the necessary water levels required for wetlands. This alternative would require consultation and buy in from the key stakeholders and Tangata Whenua involved with Wildlife Reserve land; as well as investigations into a suitable pipeline route and possible river crossings.
  - The alternative of disposal to pasture land is based on the assumption that the land is being used for dry stock, non-dairy production, or cut and carry fodder cropping; and this option would require buy in from the respective farm owners/occupiers, as well as a new pipeline system to the pasture land selected.
  - Each of the options for disposal to land would require identification of a suitable site, investigations for the pipeline route, and adequate time for consultation with stakeholders, the local community and Tangata Whenua.
- Overall, the time required is going to involve a highly lengthy period to investigate all such alternatives as identified above, and then confirm the preferred option and site availability, plus ensuring that the site can be secured, and is suitable for a preliminary design, and to consider consenting, construction and commissioning of any preferred alternative disposal scheme. Any such alternative would also incur greater costs for a new pipeline and any site related disposal facilities to be provided. In light of these aspects, the option of continuing to discharge into the Waiari Stream receiving environment is the preferred option.
  - However, in considering these alternatives, it was recognised that there is still an advantage to continue with investigating such alternatives for disposal, as this could prove very helpful for future opportunities to maintain a certain discharge volume into the Waiari Stream environment while piping the additional volume of treated wastewater to another disposal site (once identified, secured and consented, and operational). WBOPDC has, therefore continued with the investigation into alternative disposal options, and recommended that this aspect be included within the conditions of the consents sought.
  - Given that the treatment and disposal options for wastewater from the Rangiora Business Park are yet to be investigated, it was recognised that this factor may also need to be included in the investigation of alternative disposal methods. The future growth of other industrial and commercial ventures within Te Puke is difficult to predict, and may also need to be factored into such investigations.
  - At present, Stage 1 of investigating alternative disposal options has been undertaken, using a Multi-Criteria Analysis (MCA), to consider each of the options set out above. The MCA was based on qualitative non-cost based criteria, including sustainability, social/public health, cultural, planning/regulatory, technical/operational and environmental factors. Full details on the 'Alternative Options Assessment Report' are in Appendix I; and the outcome of Stage 1 showed that the top four preferred options for disposal were for discharges to:
    - Forestry Land;
    - Pasture Land;
    - Wildlife Reserve Land;
    - Recreational Reserve Land.
- At this stage, the options analysis has not factored in cost or economic factors, i.e. even though other disposal options may look favourable, they may prove to be too costly to implement, or they may have other restrictions which prevent ease of use.
  - There are also future considerations for site identification, availability and ease of securing a lease or ownership should another parcel of land be required for any alternative disposal. There is currently no certainty of land acquisitions, market value or any Public Works Act considerations (timeframes,

complexity or land owner resistance). Further, there WBOPDC has not included funding for such investigations, land acquisition, design and construction for an alternative disposal option within the current Long Term Plan.

- WBOPDC has, under the circumstances, committed to continuing to investigate alternative future discharge options, in accordance with the timeline and MCA approach described in the report in **Appendix I**. As noted above, the investigation of alternatives has completed Stage 1 using a MCA approach for a number of disposal options and work is planned of the next ten years for Stages 2 and 3 of the investigation process. This is more fully described in **Appendix I**.

### Section 107 Restriction on grant of certain discharge permits

The effects of the discharge permit sought have been assessed to ensure that potential adverse effects on the environment will not result in the conditions described under Section 107, which are set out below, for ease of reference:

(1) *Except as provided in subsection (2), a consent authority shall not grant a discharge permit [or a coastal permit to do something that would otherwise contravene section 15 or section 15A allowing—*

(a) *The discharge of a contaminant or water into water; or*

(b) *A discharge of a contaminant onto or into land in circumstances which may result in that contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water; or*

(ba) *The dumping in the coastal marine area from any ship, aircraft, or offshore installation of any waste or other matter that is a contaminant, -*

*if, after reasonable mixing point, 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.*

(2) *A consent authority may grant a discharge permit or a coastal permit to do something that would otherwise contravene section 15 or section 15A that may allow any of the effects described in subsection (1) if it 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.*

(3) *In addition to any other conditions imposed under this Act, a discharge permit or coastal permit may include conditions requiring the holder of the permit to undertake such works in such stages throughout the term of the permit as will ensure that upon the expiry of the permit the holder can meet the requirements of subsection (1) and of any relevant regional rules.*

The findings of the assessment of water quality, stream and terrestrial ecology undertaken are in Appendix F; and note that the Australian and New Zealand Guidelines for Fresh and Marine Water Quality, 2000 (ANZECC, 2000) have been used. This assessment recognises that the ecosystem condition of both the Waiari Stream and Kaituna River are highly disturbed systems based on land use activities, point source and non-point discharges to the watercourses. A 95% level of species protection has been applied, as a conservative approach to this assessment. The assessment has also taken into account the requirements of the National Policy Statement for Freshwater Management 2014, and also the Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas (MfE 2003). The assessment addressed water quality in the receiving environment,

considering such aspects as pH, conductivity, dissolved oxygen, turbidity and temperature, as well as nutrient loading, total suspended solids and faecal coliforms. The assessment also included the mixing zone and the dilution factor in the receiving watercourse, being the Waiari Stream.

The water quality assessment recognised that the Waiari Stream is located within a rural catchment, dominated by pastoral farming activities. Faecal contamination is prevalent and the historical water quality monitoring data showed a nutrient enriched environment due to total nitrogen and total phosphorous concentrations in the Waiari Stream. There are a number of contaminant sources from surrounding farms and farm drains within the vicinity of the Te Puke WWTP discharge area that are significant contributors of nutrients to the Waiari Stream. The discharge from the WWTP also contributes to the concentrations of nutrients to groundwater in the vicinity of the wetland and to the Waiari Stream. The results of the physiochemical field surface water quality monitoring for the Waiari Stream found good to excellent quality conditions; and the water quality monitoring results for the Kaituna River showed that the discharge of the Waiari Stream is having a minimal effect on water quality in the Kaituna.

Further details are in Appendix F, which concludes that: *“overall, the water quality, stream and surrounding terrestrial ecology at all of the sites are indicative of a highly modified rural environment, with reduced riparian margins, limited availability of stable habitat and potential influence of diffuse and point source discharges.*

*The water quality of the proposed treated WWTP discharge are likely to remain the same however the flow rate of the discharge will increase thus increasing the load of contamination (particularly nutrients). Therefore, there is potential that with the proposed increase in treated discharges into the Waiari Stream, there may be subsequent additional effects within the receiving environment. It is recommended that routine monitoring continue to identify and quantify any additional effects to inform mitigation and or improvements to treatment processes should they be required.”*

The discharge point of the treated wastewater is via a number of diffuse outlets within the riparian wetland area of the Waiari Stream’s true left floodbank. The assessment also concluded that: *“there is little evidence to suggest that the existing Te Puke WWTP is having any environmental impact on the terrestrial ecology of the receiving environment.”*

### **Section 108 Conditions of resource consents**

As noted under Section 104B RMA above, conditions may be imposed under Section 108 RMA, when granting consent. There are conditions relating to the discharge quantity, effluent quality and monitoring, and water quality monitoring in the existing consent (02 4891); and it is anticipated that similar conditions of consent will be provided for the discharge permits sought to continue with the discharge to land/water of treated wastewater.

Further conditions may also be added where more stringent water quality standards are proposed, or where the investigation of alternative disposal options is to be continued, or where further WWTP upgrades, over and above those identified as being required to meet the recommended water quality monitoring parameters, are to be assessed.

## **8.3 Part 2 – Purpose and Principles**

### **8.3.1 Section 5 Purpose and Principles**

The purpose of the RMA in Section 5 (1) is “... to promote the sustainable management of natural and physical resources.” Sustainable management is defined in Section 5 (2).

The ongoing discharge of treated wastewater to the wetlands adjoining the Waiari Stream is consistent with section 5 of the RMA and represents sustainable management of natural and physical resources for the following reasons:

- The continued operation and future upgrading of the WWTP, including the associated discharges, will promote the sustainable management of natural and physical resources, including the physical resource of the wastewater system. The WWTP will provide for the present and future health needs of the Te Puke township by safely treating the community sewage.
- The operation and maintenance of the WWTP, including the associated discharges, can be undertaken in a manner that will avoid, remedy and mitigate potential effects on the surrounding residential, rural and freshwater receiving environments. Conditions imposed on the resource consents will ensure that the potential adverse effects on natural and physical resources arising from the operation will be limited.

- The WWTP works will better enable people and communities to provide for their social, cultural and economic wellbeing through the maintenance and enhancement of the existing and proposed infrastructure;
- The WWTP upgrading works, including the associated discharges, will sustain the potential of a significant physical resource (the wastewater network) to meet the reasonably foreseeable needs of future generations; and
- As demonstrated in Section 7 of this report, the proposed WWTP works will not result in significant adverse effects on the environment.

### 8.3.2 Section 6 Matters of national importance

Section 6 lists matters of national importance, of which the following are relevant to the proposed discharge:

- a) *The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development;*
- e) *The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:*

The continued discharges associated with the treatment of wastewater, will be undertaken in a manner that appropriately recognises and provides for the above matters.

The relationship of Maori, their culture and traditions has been taken into consideration in the assessment of the continued operation of the Te Puke WWTP and there has been consultation with the respective iwi/hapu groups regarding the preparation of CIA reports. A CIA has been received from Tapuika, and a summary statement from Ngati Pikiao ki Tai at this stage and further CIA details are being prepared by Waitaha and also Ngati Pikiao ki Tai.

### 8.3.3 Section 7 Other matters

Section 7 lists other matters for regard to be given to, of which the following are relevant to the proposal:

- (a) Kaitiakitanga:
- (aa) The ethic of stewardship:
- (b) The efficient use and development of natural and physical resources:
- (c) The maintenance and enhancement of amenity values:
- (d) Intrinsic values of ecosystems:
- (f) Maintenance and enhancement of the quality of the environment:

Consultation has been undertaken with tangata whenua and other stakeholders as kaitiaki and stewards of natural and physical resources in relation to these section 7 matters.

The Waiari Stream and Kaituna River are highly significant to the local iwi/hapu groups and the mitigation measures associated with the Te Puke WWTP will be necessary to address issues raised during consultation.

### 8.3.4 Section 8 Treaty of Waitangi

Section 8 of the RMA states:

*"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 Treaty of Waitangi (Te Tiriti o Waitangi)."*

The principles of Te Tiriti o Waitangi have been taken into account in preparing the AEE for the Te Puke WWTP and CIA have been prepared by local hapu representatives. Early consultation with tangata whenua representatives has been undertaken and maintained in an ongoing, open, transparent manner. This includes the preparation of CIAs and continued consultation with the respective iwi/hapu groups.

A condition has been recommended that a Kaitiaki Advisory Group to be set up for the Te Puke WWTP consents; and it may be possible to consider whether there is any benefit in scheduling the meeting dates on the same day as the Kaitiaki Advisory Group for the Waiari water take consent, in terms of efficiency and similar issues to be

considered. The proposed conditions also provide for tangata whenua involvement and provision of monitoring details to the respective iwi/hapu groups. Refer to section 9 of this report for details of the proposed conditions.

The proposed treatment quality standards will ensure existing natural and physical resources are to be protected when considering the principles of the Treaty of Waitangi. Refer to section 6 of this report for further details on consultation.

## 8.4 National Environmental Standards

There are no other national environmental standards considered directly applicable in this instance.

## 8.5 National Policy Statements

The purpose of national policy statements (NPS) is to state objectives and policies for matters of national significance that are relevant to achieving the purpose of the RMA. Regional and district plans must give effect to NPS, under Sections 67 (3) (a) and 75 (3) (a) RMA. The following NPS are relevant to the WWTP:

- The New Zealand Coastal Policy Statement 2010
- The National Policy Statement for Freshwater Management 2014

### 8.5.1 The New Zealand Coastal Policy Statement 2010

The New Zealand Coastal Policy Statement took effect on 3 December 2010 replacing the 1994 New Zealand Policy Statement. The purpose of the New Zealand Coastal Policy Statement (NZCPS) is to state policies in order to achieve the purpose of the Resource Management Act in relation to the coastal environment of New Zealand.

The relevant objective and policies are provided below:

- Objective 1: 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.
- Policy 21: Enhancement of water quality

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:

- identifying such areas of coastal water and water bodies and including them in plans;
  - including provisions in plans to address improving water quality in the areas identified above;
  - where practicable, restoring water quality to at least a state that can support such activities and ecosystems and natural habitats;
  - 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
  - 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
- Policy 23: Discharge of contaminants

In managing discharge of human sewage, do not allow:

- discharge of human sewage directly to water in the coastal environment without treatment; and
- the discharge of treated human sewage to water in the coastal environment, unless:
- there has been adequate consideration of alternative methods, sites and routes for undertaking the discharge; and
- informed by an understanding of tangata whenua values and the effects on them.
- objectives, policies and rules in plans which provide for the discharge of treated human sewage into waters of the coastal environment must have been subject to early and meaningful consultation with tangata whenua.

The operation of the WWTP is consistent with the text of the NZCPS. The discharge to land/water reaches the Waiari Stream which eventually discharges into the Coastal Marine Area (CMA) via the Kaituna River. As noted in section 7 of this report, the Ongatoro/Maketu estuary is significantly further downstream (approximately 9.5km) and the Te Puke WWTP is unlikely to be having an adverse effect on the Ongatoro/Maketu estuary water quality. The Water Quality and Public Health assessments attached to this report indicate that, amongst other factors, given the significant dilution factors of the Waiari Stream and Kaituna River, the Te Puke WWTP is unlikely to be having an adverse effect on the Ongatoro/Maketu estuary water quality; and any health warning/shell fish bans are likely triggered by other factors mentioned i.e. the significant presence of surrounding agricultural practices including farm drains with concentrated farm runoff.

The effect of the discharge to water/land on the Waiari Stream is discussed in section 7 of this report.

### **8.5.2 The NPS for Freshwater Management 2014**

The NPS for Freshwater Management was made operative on 1 August 2014 and sets out the objectives and policies for freshwater management under the Resource Management Act 1991.

The relevant objective and policies are provided below:

- Objective A1

*To safeguard:*

*a) the life-supporting capacity, ecosystem processes and indigenous species including their associated ecosystems, of fresh water; and*

*b) the health of people and communities, at least as affected by secondary contact with fresh water; in sustainably managing the use and development of land, and of discharges of contaminants.*

- Objective A2

*The overall quality of fresh water within a region is maintained or improved while:*

*a) protecting the significant values of outstanding freshwater bodies;*

*b) protecting the significant values of wetlands; and*

*c) improving the quality of fresh water in water bodies that have been degraded by human activities to the point of being over-allocated.*

Policies A1 – A3 relate to regional councils setting freshwater objectives and freshwater quality limits through their regional plans, including provision for regional councils to impose conditions on discharge permits in relation to the limits and targets set in the regional plans.

*Under Policy A4, regional councils are required to amend the regional plan requirements for assessing discharge applications during the interim period until changes have been made pursuant to Policies A1 and A2, as follows:*

*“1. When considering any application for a discharge the consent authority must have regard to the following matters:*

*a. the extent to which the discharge would avoid contamination that will have an adverse effect on the life-supporting capacity of fresh water including on any ecosystem associated with fresh water and*

*b. the extent to which it is feasible and dependable that any more than minor adverse effect on fresh water, and on any ecosystem associated with fresh water, resulting from the discharge would be avoided.*



2. When considering any application for a discharge the consent authority must have regard to the following matters:

a. the extent to which the discharge would avoid contamination that will have an adverse effect on the health of people and communities as affected by their secondary contact with fresh water; and

b. the extent to which it is feasible and dependable that any more than minor adverse effect on the health of people and communities as affected by their secondary contact with fresh water resulting from the discharge would be avoided.

3. This policy applies to the following discharges (including a diffuse discharge by any person or animal):

a. a new discharge or

b. a change or increase in any discharge –

of any contaminant into fresh water, or onto or into land in circumstances that may result in that contaminant (or, as a result of any natural process from the discharge of that contaminant, any other contaminant) entering fresh water.

4. Paragraph 1 of this policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2011 took effect on 1 July 2011.

5. Paragraph 2 of this policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2014 takes effect.”

We note that Policy A4 has been provided for under Policy 43A of the Bay of Plenty RWLP and is addressed in section 8.7 of the AEE. Further details are provided in the technical specialist reports in **Appendix E** – Public Health Assessment, and **Appendix F** – Water Quality, Stream and Terrestrial Ecology Assessment.

- Objective D1

*To provide for the involvement of iwi and hapū, and to ensure that tāngata whenua values and interests are identified and reflected in the management of fresh water including associated ecosystems, and decision-making regarding freshwater planning, including on how all other objectives of this national policy statement are given effect to.*

- Policy D1

*Local authorities shall take reasonable steps to:*

a) *involve iwi and hapū in the management of fresh water and freshwater ecosystems in the region*

b) *work with iwi and hapū to identify tāngata whenua values and interests in fresh water and freshwater ecosystems in the region and*

c) *reflect tāngata whenua values and interests in the management of, and decision-making regarding, fresh water and freshwater ecosystems in the region.*

As indicated in section 7 of this report, the current and proposed discharge to water will be undertaken and managed in a manner which safeguards the life-supporting capacity, ecosystem processes and indigenous species including their associated ecosystems of fresh water, in sustainably managing the use and development of land, and of discharges of contaminants.

It is noted that more stringent water quality monitoring parameters are proposed and that consequential upgrades to the WWTP are proposed in order to consistently achieve these recommended standards. As a result, it is considered that the water quality of the receiving water bodies will be maintained.

Section 6 of this report provides details of consultation with iwi/hapu groups undertaken to date, along with CIAs/summary comments that have been prepared (refer **Appendix G**). The proposal is therefore consistent with the NPS, including the consideration of the NPS provisions relating to national significance of freshwater for all New Zealanders and Te Mana o te Wai. Refer to **Appendix G** for the CIA details which address the cultural significance of the Waiari Stream, in terms of Te Mana o te Wai.

An assessment against the relevant Iwi Management plan provisions has been undertaken in section 8.10 of this report. Refer here for further details. Overall matters of concern and mitigation recommendations/suggested conditions from the consultation and CIAs provided have been taken into account and where possible, reflected in the proposed conditions of consent.

## 8.6 Operative Bay of Plenty Regional Policy Statement 2014

The Regional Policy Statement (RPS) is a document prepared under the Resource Management Act 1991 (RMA) to sustainably manage the region's natural and physical resources. The second generation RPS became operative on 1 October 2014.

Change 1 (Coastal Policy) was made operative and incorporated into the RPS on 3 June 2015. It relates specifically to the natural character maps. The proposed renewal of consents 02 4891 and 02 4889 relate to the discharge of treated wastewater to the wetlands by the Waiari Stream and not the coastal area, as noted earlier in this report.

Proposed Change 2 (Natural Hazards) was publicly notified on 1 October 2014 and seeks to insert natural hazard provisions into the newly operative RPS. The change will guide those preparing regional, city and district plans and considering resource consent applications in managing land use and associated activities according to the level of natural hazard risk they are subject to. The proposed renewal of consents 02 4891, 02 4889 and 03 0135 are not inconsistent with the provisions for natural hazards in Proposed Change 2.

The relevant provisions of the Regional Policy Statement include the following sections and corresponding objectives and policies:

### Section 2.6 Iwi resource management

- Objective 13; Policies IW 3B, IW 1B, IW 7D, IR 4B.
- Objective 14; Policies IR 3B, IR 4B, IR 6B, IW 7D.
- Objective 15; Policies IW 4B, IW 6B, IW 8D.
- Objective 17; Policies IW 5B, IW 6B, IW 2B.

### Section 2.7 Matters of National Importance

- Objective 19; Policies MN 1B, MN 3B, MN 7B, MN 8B.
- Objective 21; Policies IW 2B, IW 5B, MN 1B, MN 3B, MN 7B, MN 8B.
- Objective 22; Policies IW 2B, MN 1B, MN 3B, MN 5B, MN 6B, MN 7B, MN 8B.

### Section 2.8 Urban and rural growth management

- Objective 23; Policies UG 9B, UG 10B, UG 11B, UG 12B.
- Objective 26; Policy UG 20B

### Section 2.9 Water quality and land use

- Objective 28; Policies WL 2B, WL 3B, WL 4B, WL 5B, WL 6B.
- Objective 29; Policies WL 7B, WL 8B.

### Section 2.10 – Water Quantity

- Objective 30; Policy WQ 1A.

The main themes identified through the RPS objectives and policies include maintaining water quality and addressing cultural matters. These themes are consistent with the provisions of the NPS for Freshwater Management and the RWLP.

The proposed renewal of consents 02 4891, 02 4889 and 03 0135 are generally consistent with the relevant objectives and policies of the Operative Regional Policy Statement. An assessment against the relevant Iwi Management plan provisions has been undertaken in section 8.10 of this report. Refer here for further details. Overall matters of concern and mitigation recommendations/suggested conditions from the consultation and CIAs provided have been taken into account and where possible, reflected in the proposed conditions of consent.

## 8.7 Operative Bay of Plenty Regional Water and Land Plan 2008

Pursuant to Rule 37 - *Discharges to Water or Land* – of the Regional Water and Land Plan (RWLP), any discharge of a contaminant to water and any discharge of a contaminant onto or into land which may result in the contaminant entering water, is a **Discretionary Activity**. Treated sewage water is to continue to be discharged to the adjoining wetlands and ultimately the Waiari Stream.

Under Chapter 3 – ‘The Integrated Management of Land and Water’ of the RWLP, there are a number of relevant Objectives and Policies regarding management of land use activities and water resources within an integrated catchment management framework, as follows:

Objective 8 Integrated management of land and water resources.

Objective 9 Land use and land management practices are appropriate to the environmental characteristics and limitations of the site, and avoid, remedy or mitigate adverse effects on the life-supporting capacity of soil resources, the receiving environment and heritage values.

Objective 10 Stewardship of natural resources which:

- (a) Sustains the life-supporting capacity of soil, water and ecosystems.
- (b) Maintains, and where appropriate, protects cultural, ecological, amenity, natural character and landscape values through management practices that avoid, remedy or mitigate adverse effects.

Comment: These Objectives 8 - 10 are relevant for the WWTP and how best to manage the potential adverse effects of discharging treated wastewater on the receiving environment (wetlands and Waiari Stream), particularly when considering the life supporting capacity of such wetlands and watercourse. This has been assessed in section 7 of the AEE, with supporting details in Appendix F – Water Quality, Stream and Terrestrial Ecology Assessment.

Objective 13 The water quality in rivers and streams is maintained or improved to meet the Water Quality Classifications set in the Water Quality Classification Map, and the following environmental outcomes:

- (a) Natural State (Lake) Water Quality Classification - the natural quality of the water shall not change.
- (b) Natural State (River) Water Quality Classification - the natural quality of the water shall not change.
- (c) Managed State (Lake) Water Quality Classification - the water quality in the lake shall not deteriorate.
- (d) Aquatic Ecosystem (Bay of Plenty) Water Quality Classification - water quality shall be sufficient to support diverse and healthy aquatic ecosystems.
- (e) Contact Recreation Water Quality Classification - water quality shall be sufficient to allow contact recreational uses.
- (f) Water Supply Water Quality Classification - water quality shall be sufficient to allow for municipal water supply purposes, while recognising water treatment may still be required.
- (g) Drains with Ecological Values Water Quality Classification - water quality shall be sufficient to support aquatic ecosystems, while recognising that aquatic ecosystems in such areas are limited.
- (h) Regional Baseline Water Quality Classification - water quality shall not deteriorate.

Comment: As noted earlier in section 2 of the AEE, the Waiari Stream is classified as *Drains with Ecological Values*, and the Kaituna River is classified as *Contact Recreation* under the Water Quality Classification for the RWLP. Section 7 of the AEE sets out how water quality is to be maintained in these water bodies through the treatment process, and disposal through the riparian wetlands by way of a diffuse discharge, with further mixing in the Waiari Stream. Further details are provided in Appendix F – Water Quality, Stream and Terrestrial Ecology Assessment.

It is also recognised that over time, with continued urban growth in Te Puke the volume of wastewater being treated and discharged will increase, and that the WWTP is to maintain the same level of treatment for TSS, faecal coliforms and nutrients. To address the likely increased loading of nutrients, and to maintain water quality in the receiving environment, a number of measures are recommended including monitoring, regular technical reviews and future plant upgrades. This approach is also required under the NPS for Freshwater Management, particularly under Objective A2 with its emphasis on “..overall quality of fresh water within a region is maintained or improved...”.

Objective 15 Maintenance of high quality groundwater.

Objective 16 Degraded groundwater quality is improved where appropriate.

Objective 17 Riparian margins are appropriately managed to protect and enhance their soil conservation, water quality and heritage values.

Objective 18 Achieve the sustainable management of riparian margins (excluding artificial watercourses, and ephemeral flowpaths), which may include retirement, in the following priority catchments:

- (a) Ohiwa Harbour.
  - (i) Harbour margins – 100% by 2012.
  - (ii) Rivers and streams in the Ohiwa Harbour catchment, excluding the Nukuhou River - 75% by 2012.
  - (iii) Nukuhou River – 90% by 2012.
  - (iv) Harbour margins and all rivers and streams in the catchment – 100% by 2020.
- (b) Rotorua lakes.
  - (i) All lake margins – 100% by 2007.
  - (ii) Rivers and streams in all lake catchments – 100% by 2020.
  - (iii) Rivers and streams in the catchment of Lake Rotorua – 90% by 2010.
- (c) Tauranga Harbour.
  - (i) Harbour margins – 100% by 2010.
  - (ii) Rivers and streams in the Tauranga Harbour catchment – 80% by 2020.

Objective 19 Protect vulnerable areas from erosion.

Comment: Objectives 15 to 19 are relevant for the constructed wetland and ground water as the current receiving environment for the discharge of treated wastewater. WBOPDC has considered removing the wetlands from the WWTP system and replacing them with a 'bank-side perforated diffuser pipe and rock passage chamber'. After this upgrade, the existing wetlands will no longer receive treated wastewater and are available for other community uses, including food gathering, education and research opportunities. WBOPDC is also considering opportunities for better connectivity with cycleways and walkways in the vicinity of the WWTP and stop banks for the Waiari Stream.

With the 'bank-side perforated diffuser pipe and rock passage chamber', the treated wastewater will continue to reach the riparian wetlands prior to seepage into the Waiari Stream; and WBOPDC is considering ways to enhance the wetlands, as well as improve the riparian bank along the area owned by council.

#### Policy 21

To manage land and water resources in the Bay of Plenty within an integrated catchment management framework to:

- (a) Maintain or enhance water quality in individual lakes to meet their Trophic Level Index ('TLI') and Water Quality Classification.
- (b) Require the management of nitrogen or phosphorus in individual Rotorua lake catchments.
- (c) Reduce cyanobacterial algal blooms on the Rotorua Lakes by managing nutrient inputs in the lake catchment.
- (d) Maintain or improve water quality in streams and rivers to meet their Water Quality Classification.
- (e) Have full regard to the water quality classifications for coastal waters (including harbours and estuaries), and policies relevant to the coastal environment in the Bay of Plenty Regional Coastal Environment Plan.
- (f) Recognise and provide for heritage values in resource management decisions.
- (g) Maintain existing high quality groundwater, where the following have been identified:
  - (i) Potable water, including aquifers used for municipal water supply.
  - (ii) Natural water quality that has not been adversely affected by land use or point source discharges.
  - (iii) Recharge areas of aquifers related to areas specified in (i) and (ii).
 and
  - (iv) In the groundwater catchments of the Rotorua lakes, Ohiwa and Tauranga harbours.
- (h) Avoid, remedy or mitigate adverse effects on groundwater quality in other areas not otherwise addressed by (g).
- (i) Ensure the levels of bacteria in those rivers and streams that have been identified as important swimming sites and in lakes in Schedule 10 meet the Ministry of Health/Ministry for the Environment Recreational

Water Quality Guidelines (1999) as a minimum.

(j) Understand the effects of changing land cover and land use practices on water flows and levels in rivers, streams, lakes.

(k) Promote and encourage the adoption of sustainable land management practices that are appropriate to the environmental characteristics and limitations of the site to:

- (i) Protect the soil and avoid, remedy or mitigate the adverse effects of erosion.
- (ii) Maintain the health of the region's soil resources for future generations.
- (iii) Achieve the appropriate management of riparian areas, including the retirement and planting of riparian areas of streams, rivers, lakes, wetlands and estuaries.
- (iv) Avoid, remedy or mitigate adverse effects on water quality in the receiving environment.
- (v) Take into account the assimilative capacity of the soil.
- (vi) Recognise and provide for heritage values of the site.
- (vii) Maintain or improve the protective function of coastal sand dunes.
- (viii) Control sediment entering estuaries and harbours from use and development activities.

(l) Manage land and water resources according to realistic management goals that are appropriate to the existing environmental quality and heritage values (including ecosystem values) of the location.

Comment: As noted earlier in section 2 of the AEE, the Waiari Stream is classified as *Drains with Ecological Values*, and the Kaituna River is classified as *Contact Recreation* under the Water Quality Classification for the RWLP. Section 7 of the AEE sets out how water quality is to be maintained in these water bodies through the treatment process, and disposal through the riparian wetlands by way of a diffuse discharge, with further mixing in the Waiari Stream. Further details are provided in Appendix F – Water Quality, Stream and Terrestrial Ecology Assessment.

It is also recognised that over time, with continued urban growth in Te Puke the volume of wastewater being treated and discharged will increase, and that the WWTP is to maintain the same level of treatment for TSS, faecal coliforms and nutrients. To address the likely increased loading of nutrients, and to maintain water quality in the receiving environment, a number of measures are recommended including monitoring, regular technical reviews and future plant upgrades.

Also, as noted above, WBOPDC is proposing to replace the constructed wetlands with a 'bank-side perforated diffuser pipe and rock passage chamber', where the treated wastewater will continue to reach the riparian wetlands prior to seepage into the Waiari Stream; and WBOPDC is also considering ways to enhance the wetlands, as well as improve the riparian bank along the area owned by council.

Chapter 4 of the RWLP addresses issues arising from the discharge of contaminants to land and water.

The continuation of the WWTP discharges to land and water have been assessed against the relevant Objectives contained in Part 4.1.2 with the relevant Policies contained in Part 4.1.3. In this regard the following relevant comments are made:

- The discharge of contaminants to water will be managed to meet the relevant goals of Objective 23; which states:
- "*Objective 23: Discharges of contaminants to water are managed to meet the following goals:*
- (a) *After reasonable mixing, discharges of contaminants to lakes, streams and rivers meet the water quality classification of the receiving water bodies as a minimum; and have no more than minor adverse effects on heritage values, existing users in downstream areas, and lakes, harbours and estuaries.*
- (b) *Discharges of contaminants to water are in a manner that takes into account the cultural values of tangata whenua acknowledged for that area.*"
- With regards to Objectives 24 and 25, the activity will prevent the accumulation of persistent toxic contaminants in the environment, particularly in the Waiari Stream and downstream Kaituna River and Maketu estuary catchment.
- Regarding Objective 26, adverse effects on groundwater will be avoided.
- In relation to Objective 27, the discharge of water to water within the wetlands will avoid, remedy or mitigate adverse effects on the environment as appropriate to the values, uses and existing environmental quality of the activity site.

- No discharge of contaminants identified in Objective 29 will occur.
- Full regard has been given to the effect on the water quality of coastal waters downstream of the Kaituna River at both the ocean and Maketu/Ongatoro Estuary.
- The wastewater disposal process currently involves and will continue to involve the discharge of contaminants to land (wetland system) prior to the ultimate discharge to water (Waiari Stream).
- The discharge to the Waiari Stream meets the requirements of Policy 38, refer to section 7 of this report for further details on water quality effects.
- The requirements of policy 42 have been met particularly given the ongoing and transparent consultation that has occurred; the CIAs that have been prepared and the subsequent consideration of cultural values with regard to the operation of the Te Puke WWTP. Disposal of sewage to water is via land – currently a constructed wetland and in the near future, via a bank-side perforated diffuser pipe and rock passage chamber system.
- With regard to Policy 43, more stringent monitoring parameters and associated WWTP upgrades are proposed to ensure that water quality is maintained and that further cumulative effects of the discharge are avoided.
- Policy 43A provides the assessment criteria for considering any application for a discharge, and is in accordance with the NPS for Freshwater Management requirement under Policy A4.
- As indicated in section 7 of this report, there will not be significant adverse effects in terms of the life-supporting capacity of fresh water and the health of people and communities as affected by their secondary contact with fresh water.
- Regarding Policy 44, the discharges of contaminants to land where the contaminant may enter water, will be appropriately managed to ensure that;
  - a. The rate and volume of the discharge does not exceed the natural treatment and assimilative capacity of the wetlands, surrounding soil and its vegetative cover.
  - b. Surface runoff of contaminants to the Waiari stream is avoided, remedied or mitigated.
  - c. The creation of contaminated sites is prevented.
  - d. Potential adverse effects on groundwater are adequately managed.
- The activity does not involve any industrial or trade premises and therefore no bond is necessary. Refer to Policy 45.
- Under Policy 47, regarding potential adverse effects of the discharge of treated wastewater on Maori cultural values, CIAs have been prepared by Tapuika, Ngati Pikiāo ki Tai and Waitaha. Further details are in section 7 of this report.
- With regards to Policy 48, the works and associated discharges will be undertaken in accordance with best engineering practices as proposed in this report. As a result, adverse effects are avoided, remedied or mitigated (as indicated in Section 7).
- Policy 49 requires that a reasonable mixing zone be identified, having regard to the criteria specified in Method 115. Regarding Policy 49 requirements for identification of a reasonable mixing zone and Method 115, this has been addressed in the public health assessment, a copy of which is in **Appendix E**.
- For ease of reference, Policy 49 and Method 115 are set out below:

#### **Policy 49**

To set a reasonable mixing zone in conditions of resource consents to discharge contaminants to water where relevant, having regard to the criteria specified in Method 115.

**Method 115** Define the length or radius of a reasonable mixing zone in the conditions of a resource consent for the point source discharge of contaminants to a surface water body having regard to the following assessment criteria:

- (a) The best practicable option to minimise the length or radius of the reasonable mixing zone.
- (b) The water quality classification of the receiving water body (refer to the Water Quality Classification Map), and the relevant water quality classification standard in Schedule 9.
- (c) The flow regime of the receiving water.

- (d) The ambient concentrations of contaminants in the receiving water.
- (e) Effluent discharge flow rate and contaminant concentrations.
- (f) Existing discharge and abstraction consents.
- (g) Fish migration and aquatic ecosystems requirements.
- (h) The values and existing uses of the water body.
- (i) Maori cultural values (refer to Policy 42).
- (j) Proximity to bathing sites, especially those listed in Schedule 10.
- (k) Adverse environmental effects of the discharge, including cumulative effects in relation to (a) to (j).
- (l) The location of the discharge and position of the outfall.
- (m) Outfall diffuser design criteria.
- (n) Information provided by the applicant.
- (o) Any other information relevant to the nature of the discharge and the site characteristics.

### 8.7.1 Schedule 9 – Water Quality Classification Standards and Criteria

As indicated in section 2.2 of this report, the Waiari Stream, in particular, the section within the vicinity of the Te Puke WWTP, is classified as *Drains with Ecological Values* under the BOPRC Regional Water and Land Plan Water Quality Classification Maps. The relevant water quality standards and criteria are identified and have been assessed below.

#### **Modified Watercourses with Ecological Values Water Quality Classification**

Any discharge of a contaminant or water to water in a watercourse classified as Modified Watercourses with Ecological Values in the Water Quality Classification Map shall not alter the quality of the water beyond the following standards and criteria after reasonable mixing of the discharge with the receiving water:

- (a) The temperature of the water:
  - (i) Shall not be changed by more than 3 degrees Celsius; and
  - (ii) Shall not exceed 18 degrees Celsius, as a result of the discharge.
- (b) The concentration of dissolved oxygen shall not be lowered as a result of any discharge of a contaminant into the water.
- (c) There shall be no undesirable biological growths as a result of any discharge of a contaminant into the water.
- (d) The discharge of contaminants (either by itself or in combination with the same, similar, or other contaminants) or water to water shall not cause:
  - (i) The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials.
  - (ii) Any conspicuous change in the colour or visual clarity. There shall be no greater than 20% decrease in secchi disc depth or black disk range.
  - (iii) Any emission of objectionable odour (refer to the Operative Bay of Plenty Regional Air Plan).
  - (iv) The rendering of fresh water unsuitable for consumption by farm animals (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000<sup>58</sup>).
  - (v) Any more than minor adverse effects on aquatic life (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000).



### Drain Water Quality Classification

Any discharge of a contaminant or water to water in a watercourse classified as Drain Water Quality in the Water Quality Classification Map shall not alter the quality of the water beyond the following standards and criteria after reasonable mixing of the discharge with the receiving water:

- (a) The temperature of the water:
  - (i) Shall not be changed by more than 3 degree Celsius; and
  - (ii) Shall not exceed 25 degrees Celsius, as a result of the discharge.
- (b) There shall be no undesirable biological growths as a result of any discharge of a contaminant into the water.
- (c) The discharge of contaminants (either by itself or in combination with the same, similar, or other contaminants) or water to water shall not cause:
  - (i) The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials.
  - (ii) Any conspicuous change in the colour or visual clarity. There shall be no greater than 20% decrease in secchi disc depth or black disk range.
  - (iii) Any emission of objectionable odour (refer to the Operative Bay of Plenty Regional Air Plan).
  - (iv) The rendering of fresh water unsuitable for consumption by farm animals (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000<sup>69</sup>).
  - (v) Any significant adverse effects on aquatic life (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000).

#### Comment

- Under Schedule 9 – Water Quality Classification Standards and Criteria, Section 7 addresses the Modified Watercourses with Ecological Values Water Quality Classification, and Section 8 addresses the Drain Water Quality Classification. Each sets out the required standards to be addressed by the discharge after reasonable mixing of the discharge with the receiving water. This aspect has been taken into account by the Water Quality, Stream and Terrestrial Ecology assessment report undertaken by AECOM which concluded, *‘The results from the Waiari Stream show a slight disparity between the upstream and downstream sites, with the upstream site indicating a stream of ‘good’ and ‘excellent’ quality, while the downstream site a stream of ‘fair’ to ‘good’ quality. It is likely that the decreased ecological community at the downstream site is associated with sampling methods, the type and condition of the substrate sampled at the time. These differences could, in part, be attributed to discharges from the WWTP, other point source discharges such as the one identified in Figure 2 [refer report in **Appendix F**] and diffuse inputs from the surrounding agricultural land use.....While the Waiari Stream is generally in good health, the Kaituna River is of poor health, and typical of low lying streams and rivers draining predominantly agricultural catchments.’*
- The Water Quality assessment indicated that water quality immediately downstream of the Te Puke WWTP was further affected by other discharges from nearby farm run-off and a larger farm drain with concentrated farm runoff.
- Overall, the proposed continuation of the discharge to the Waiari Stream is generally consistent with the relevant criteria.

## 8.8 Operative Bay of Plenty Regional Air Plan 2003

Pursuant to Rule 19 Discretionary Activity – Specified Activities - the discharge of contaminants into air from the treatment or disposal of waste is a **Discretionary Activity** under the RAP.

Chapters 3 and 4 of the RAP contain the objectives and policies relevant to the proposed air discharge. In relation to Objectives 1, 2 and 4; and Policies 1(a), 1(b), 2, 6, 8 and 12, the following comments are made:

- The air quality in the Bay of Plenty region as a result of the proposed (on-going) air discharge will be maintained and protected through effective WWTP process operation.
- Significant adverse effects of the discharges will be avoided, remedied or mitigated.



- Transportation/disposal of biosolids off-site will be managed in such a way that adverse effects on air quality are avoided.
- Cumulative and/or synergistic effects of discharges into air have been considered in the assessment of the environmental effects of the WWTP activity.
- Provision has been made for the involvement of tangata whenua as kaitiaki (guardians) in the management of the mauri of air through the consultation undertaken.

## 8.9 Second Generation Regional Air Plan

The Draft NEW Bay of Plenty Regional Air Plan was released for public comment on 26 April 2016.

The draft plan has been developed with updated provisions that address the air quality issues of today and the near future, rather than historical issues. The draft plan includes rules that reflect what is currently known and what needs to happen to fix the various issues. These draft rules are in their very early stages and require feedback from the community to ensure they are appropriate and will achieve the desired outcomes. Given that the Draft new plan is in its development stages, it has no legal weight as yet and therefore, no further comment is made in this regard.

## 8.10 Bay of Plenty Regional Coastal Environment Plan 2011

The operative BOP Regional Coastal Environment Plan (RCEP) was amended on 22 February 2011 to remove restricted coastal activities in accordance with the NZCPS 2010 provisions. The Proposed RCEP was publically notified on 24 June 2014 and Council released its decisions on 1 September 2015; however, the Operative Bay of Plenty RCEP will remain active until all appeals on the Proposed RCEP have been resolved.

Given that this application relates to the continued discharge of treated wastewater to the wetlands adjoining the Waiari Stream where it is deemed to be freshwater and then flows into the Kaituna River (also freshwater), there are no regional coastal provisions of direct relevance to this proposal. The Kaituna River is affected by tidal flows, and there are effects from the saline wedge near the river mouth; however, this area of influence is well downstream from where the existing discharge points from the Te Puke WWTP are located. Additionally, the Maketu estuary is further downstream and the Te Puke WWTP is unlikely to be having an adverse effect on the Ongatoro/Maketu estuary water quality either. The Water Quality and Public Health assessments attached to this report indicate that, amongst other factors, given the significant dilution factors of the Waiari Stream and Kaituna River, the Te Puke WWTP is unlikely to be having an adverse effect on the Ongatoro/Maketu estuary water quality; and any health warning/shell fish bans are likely triggered by other factors mentioned i.e. the significant presence of surrounding agricultural practices including farm drains with concentrated farm runoff.

The alternatives considered in the Disposal Options Assessment did include an ocean discharge option and this would need to take the provisions of the RCEP into account if ever pursued further. The proposed Kaituna River re-diversion also involves the RCEP provisions.

## 8.11 Other Relevant Matters

### 8.11.1 Environmental Defence Society of New Zealand v The New Zealand King Salmon Co. Limited & Others [2014] NZSC 38 (NZ King Salmon Decision)

The NZ King Salmon Decision was issued by the Supreme Court in April 2014. While the decision has primary relevance to the plan change processes under the RMA, it also has important ramifications for resource consent applications. The decision enforces the need to interpret individual objectives and policies carefully and give those that are directive and specific greater weight than those that are less directive and more general. This is relevant equally to resource consent and plan change processes.

In the NZ King Salmon Decision the directive nature of two policies in the NZCPS, with the use of the word "avoid", meant that there was no need to refer back to Part 2 of the RMA. The private plan change had to "give effect to" (which was held to mean "implement") the NZCPS pursuant to Section 67(3) and there was no need to refer back to Part 2 and apply an overall broad judgement as to whether the application would be granted.

However pursuant to Section 104 of the RMA decisions for resource consent applications are to be made "subject to Part 2" and decision makers are only required to "have regard" to the NZCPS, NPS FM and other national and

regional planning documents. This difference in wording means that an overall broad judgement approach will still apply for resource consents. This has been confirmed in the recent decision of the Environment Court in *KPF Investments Limited v Marlborough District Council* [2014] NZEnvC 152.

This application has assessed the proposed renewal and changes to the existing consents in light of the NZ King Salmon Decision and the KPF Investments Decision and has given the appropriate weight to the relevant objectives and policies of the NZCPS and NPS FM. The proposed renewal and changes to the existing consents are in keeping with these relevant objectives and policies.

### **8.11.2 Kaituna River Re-diversion and Ongatoro/Maketu Estuary Enhancement Project**

Since 1956 almost all of the Kaituna River's freshwater has been diverted out to sea at Te Tumu to protect the low lying farmland from flooding and improve drainage. The diversion has had adverse ecological effects on the Ongatoro/Maketu Estuary, and the BOPRC intends to re-divert almost a quarter of the Kaituna River's flow back into the estuary. The extra water is predicted to improve the estuary's health and will restore some of the mauri of the area by allowing salt marsh and other wetlands to return. It will also create more suitable conditions for a range of shellfish and fish species and may reduce the rate at which sand fills in the estuary.

Accordingly, BOPRC has facilitated the Kaituna River Re-diversion and Ongatoro/Maketu Estuary Enhancement Project's application for resource consents and a notice of requirement to designate land. More recently, this matter has been addressed through the Environment Court to settle outstanding appeals.

The project proposes to re-divert approximately 20 percent of the flows from the Kaituna River back into the Ongatoto/Maketu Estuary via Ford's Channel for the purpose of enhancing the Ongatoro/Maketu Estuary, to establish new wetlands and to provide associated recreational opportunities.

It is noted that this proposed project has no direct impact on the proposed renewal of the resource consents for the Te Puke WWTP. Given that there is no proposed change in the consented maximum discharge flow and the proposed effluent treatment standards are more stringent than what is currently required under the existing consents.

### **8.11.3 Kaituna River Authority - Te Maru O Kaituna**

There has also been consultation undertaken with the newly formed Kaituna River Authority, Te Maru O Kaituna, to keep them informed of the proposed application.

The Kaituna River Authority (the Authority) has recently been established through separate legislation under Part 9 of the Nga Punawai o Te Tokotoru Claims Settlement Act. The purpose of the Authority is "the restoration, protection, and enhancement of the environmental, cultural and spiritual health and well-being of the Kaituna River." The Authority is also explicitly empowered to have regard to the social and economic well-being of people and communities.

The Authority is to have a permanent joint committee of the BOPRC, the Rotorua DC, the Tauranga CC, and the WBOPDC; and consists of eight members:

- 1 The Tapuika Iwi Authority Trust
- 2 The Tapuika Iwi Authority Trust and Te Kapu o Waitaha
- 3 The Te Pumautanga o Te Arawa Trust
- 4 The Te Tahuhu o Tawakeheimoa Trust
- 5 The Bay of Plenty Regional Council
- 6 The Rotorua District Council
- 7 The Tauranga City Council, and
- 8 The Western Bay of Plenty District Council.

The Authority is to prepare the Kaituna River Document to promote the restoration, protection, and enhancement of the environmental, cultural and spiritual health and well-being of the Kaituna River. To the extent necessary to promote those matters, the Document may provide for the social and economic well-being of people and

communities. The Document may outline a vision, objectives and desired outcomes for the Kaituna River, and any significant issues facing the river. The Document must not, however, contain rules or methods for achieving the purpose.

The process starts with the existing Kaituna River and Ongatoro/Maketu Estuary Strategy and community involvement. This Strategy document aims to achieve the vision for the river and estuary, including sustainable management of the river and estuary resources to ensure the community values of clean water, a healthy ecosystem, recreational and cultural values are maintained, and to provide a bountiful source of kaimoana. The Strategy document has identified that achieving the vision will mean the following:

- The waters of the river and estuary are clean enough to swim in
- There is enough water in the river and estuary to support:
  - The mauri of the river and estuary
  - Good water quality
  - Wetland restoration
  - A range of recreational and non-recreational uses
- Wetlands are restored in the Lower Kaituna Catchment
- There are thriving populations of indigenous flora and fauna, native plants, koura, eels, fish, whitebait, trout and waterfowl
- Tangata whenua are easily able to get kaimoana, and other kai for themselves and their manuhiri.

This document is still under preparation; however, having considered the effects of the proposed continued discharge to the wetlands adjoining the Waiari Stream, for the Kaituna River itself, the effects on water quality as assessed in the AECOM report in **Appendix F** will be minimal, particularly within the Kaituna which is predominantly affected by through draining of agricultural catchments into the river.

There are no other requirements or compliance aspects in the document to be addressed in relation to the proposed Te Puke WWTP application.

#### **8.11.4 Tapuika Claims Settlement Act 2014**

In recent years, there have been various settlement claims within the Bay of Plenty under the Treaty of Waitangi, including claims by Tapuika. The Tapuika Claims Settlement Act 2014 date of assent was 16 April 2014. In accordance with Schedule 1 *Statutory areas of Tapuika, Part 1 Areas subject to statutory acknowledgement*, the Waiari Stream is a statutory area of Tapuika, and this is shown on plan OTS-209-29. This is relevant for both resource consent applications and for the consent authorities to recognise the statutory status given to Tapuika in terms of the Waiari Stream and any environmental effects under the RMA.

#### **8.11.5 Tapuika Environmental Management Plan**

The Tapuika Environmental Management Plan was developed and released in 2014; and is a formally recognised Iwi Management Plan, and as such, has weight under the Resource Management Act 1991.

The Waiari Stream and Kaituna River fall within the rohe of Tapuika Iwi. Figures 4, 5 and 6 below provide details on from the Tapuika Environmental Management Plan on Tapuika's priority issues, expected outcomes and policies for water.

Figure 6 Tapuika Priority Issues for Water

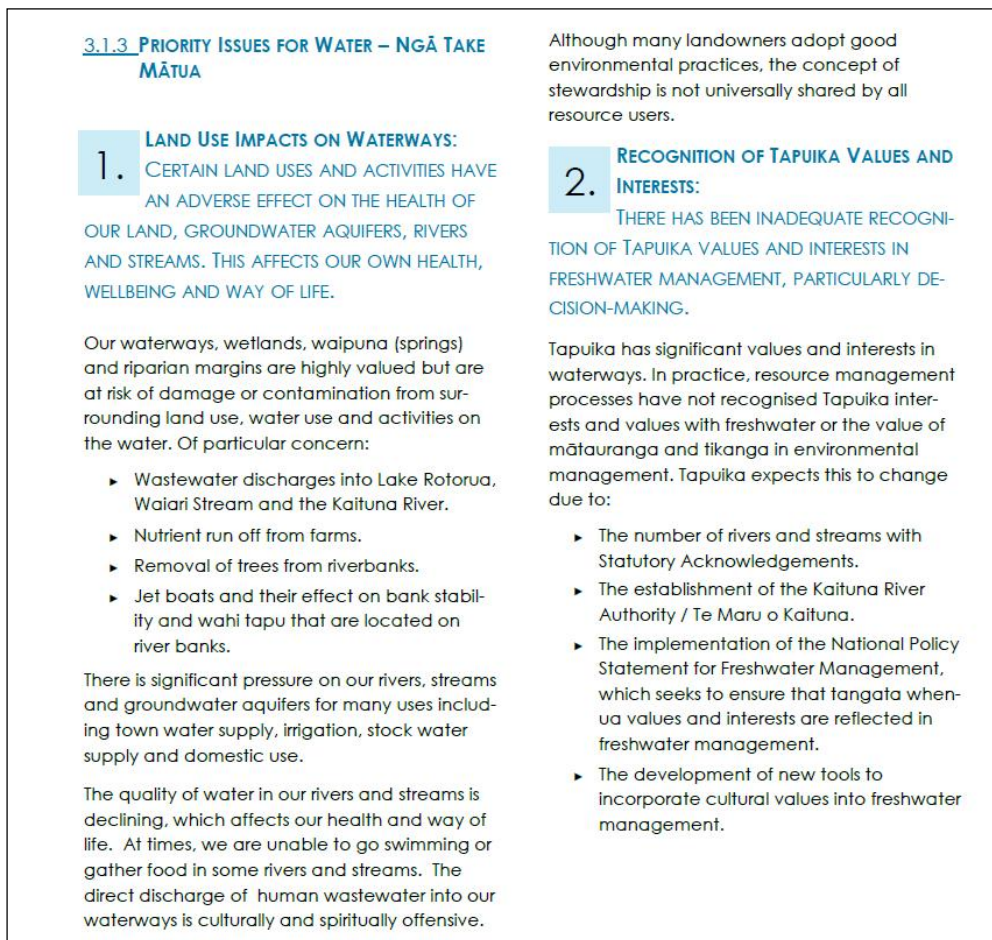


Figure 7 Tapuika Expected Outcomes for Water

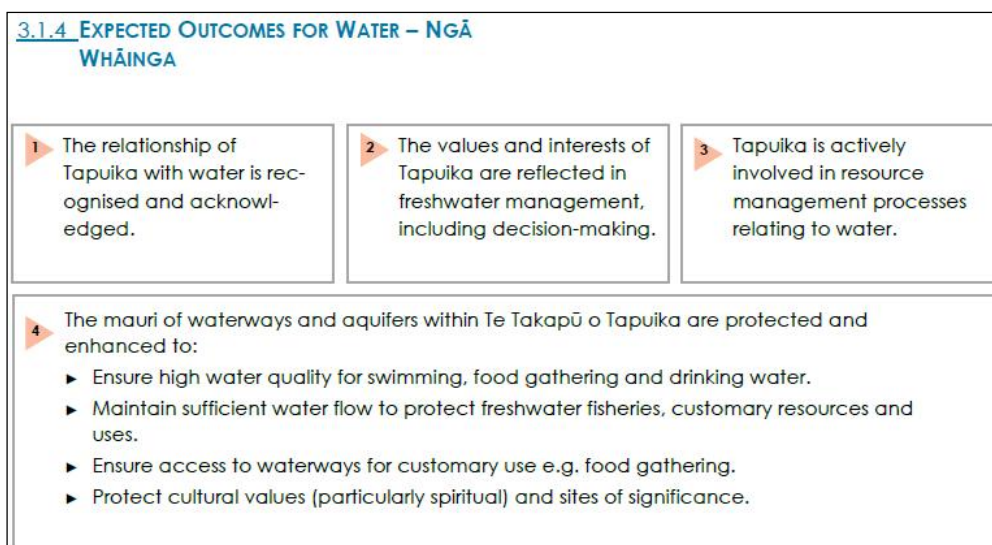


Figure 8 Tapuika Policies for Water

3.1.5 POLICIES FOR WATER - NGĀ KAUPAPA		
DISCHARGES TO WATER	1.	Tapuika opposes the direct discharge of contaminants, especially wastewater, to rivers and streams.
	2.	Promote additional treatment and/or alternative disposal methods of wastewater such as the use of new technology, land based disposal or the use of wetlands.
	3.	Encourage innovative solutions to remedy the long-term effects of discharges on the historical, cultural and spiritual values of freshwater.
	4.	Advocate that the Bay of Plenty Regional Council prepares a compliance monitoring report in relation to consented discharges to water within Te Takapū o Tapuika.

As identified, wastewater discharges into the Waiari Stream and Kaituna River are of particular concern to Tapuika.

Overall matters of concern around wastewater discharges into the Waiari Stream and Kaituna River, amongst other factors; and mitigation recommendations/suggested conditions from the consultation and CIAs provided have been taken into account and where possible, reflected in the proposed conditions of consent.

#### 8.11.6 Ngati Whakaue ki Maketu Iwi Resource Management Plan Phase 2 – August 2011

The Ngati Whakaue ki Maketu Iwi Resource Management Plan Phase 2 was updated in August 2011; and is a formally recognised Iwi Management Plan, and as such, has weight under the Resource Management Act 1991.

The Kaituna River and Maketu Estuary falls within the rohe of Ngati Whakaue and the Te Puke WWTP and Waiari Stream are Registered Interest Areas. Figure 7 identifies the issues, outcomes and how these can be achieved in relation to Fresh Water – both natural and unnatural (refer Part 4, sub-section 2 of the Iwi Resource Management Plan).

Figure 9 Freshwater Issues and Outcomes

Identify Issue	Outcome	How it can be Achieved
Lack of evidence that bore water resource consents is damaging the environment (includes the waterways).	More information on the water take from both the deep and shallow aquifers. More research conducted on the future impacts water extraction will have on the environment.	Regional Council / GNS Science and TRONWKM involvement.
The well-being of both the natural and unnatural freshwater.	In part the implementation of the Kaituna River / Maketu estuary strategy.  A water management strategy for the Waihi estuary / Kaikokopu, Pongakawa, Wharere and Whareama waterways developed.	Regional Council / GNS Science and TRONWKM involvement.
Continue permanent fencing structures to keep live stock away from the drains will improve the quality of water entering the main waterways.	Fencing monitored and improved along the waterways and drains.	Regional council to educate farmers and promote better care of waterways.
Discharge of pollutants. Failure to address the cause of discharge as per S13.2.1 & S13.2.2 of the Operative Regional Coastal Environmental Plan 2003.	Regional and WBOPDC councils taking responsibility and accountability of the condition discharges are causing to the well-being of the waterways.	Regional Council plans being implemented and the rules enforced.

Ngati Whakaue has advised that since Tapuika would be providing a CIA, and they would await Tapuika's CIA and that this should suffice from their perspective. As such, the recommendations made within the Tapuika CIA (refer to **Appendix G**) are considered appropriate in working to address the issues and desired outcomes of the Ngati Whakaue ki Maketu Iwi Resource Management Plan Phase 2.

### 8.11.7 Waitaha Claims Settlement Act 2013

In recent years, there have been various settlement claims within the Bay of Plenty under the Treaty of Waitangi, including claims by Waitaha. The Waitaha Claims Settlement Act 2013 date of assent was 12 June 2013. In accordance with Schedule 1 *Statutory areas of Waitaha*, the Waiari Stream is a statutory area of Waitaha, and this is shown marked in blue on deed plan OTS-075-08. This is relevant for both resource consent applications and for the consent authorities to recognise the statutory status given to Waitaha in terms of the Waiari Stream and any environmental effects under the RMA.

### 8.11.8 Waitaha Iwi Management Plan

The final draft of the Waitaha Iwi Management Plan has been submitted to the BOPRC.

The Waiari Stream is recognised as a statutory Area of Waitaha. In accordance with the Waitaha Iwi Management Plan, the following Waitaha Tikanga (policies), amongst other Waitaha policies, have particular relevance to the proposed Te Puke WWTP consent renewal.

## Environment 2.8 – Waterways, Freshwater Streams, Springs and Tributaries

This policy identifies that the *‘Kaituna/Papamoa wastewater catchment, modification to water bodies, and increased discharge of pollutants’* are key issues listed amongst other water quality related aspects. The Iwi response seeks that *‘Councils revisit and invest money into seeking better systems or technologies that divert from further waterway pollutant contributors.’*

The desired outcomes include:

- *‘Regular reports by those with a statutory role responsible for regulating the health of waterways*
- *A financial commitment formalised through policy to remedy any adverse effects on our waterways by those who regulate, monitor, and consent to such activities.’*

Protocols and Statutory Requirements include:

- *‘Adherences to the Waitaha process for consultation and engagement and Waitaha Resource Management Structure;*
- *Waitaha Claims Settlement Act 2013*
- *Resource Management Act 1991’*
- *Local Government Act 2002*
- *Waitaha Deed of Settlement Schedule*

## Environment 2.9 Sewage Pipeline Discharge

This policy identifies that the sewerage discharge into the ocean *‘directly compromises the coastal environment, poisons our kai moana, and is in direct conflict with Waitaha Tikanga. We do not support sewerage discharge.’* The Iwi response seeks that *‘Council invest in other more environmentally friendly methods of disposing of human waste. We want the mauri and sustenance of all waterways to be restored and the water quality at 100% potable.’*

The desired outcomes include:

- *‘Adequate resourcing for monitoring capability giving effect to kaitiaki responsibility*
- *Regular reports by those with a statutory role responsible for regulating the health of waterways*
- *A financial commitment formalised through policy to remedy any adverse effects on our waterways by those who regulate, monitor, and consent to such activities.’*

Protocols and Statutory Requirements include:

- *‘Adherences to the Waitaha process for consultation and engagement and Waitaha Resource Management Structure;*
- *Waitaha Claims Settlement Act 2013*

- *Resource Management Act 1991*'

Waitaha undertook to prepare a CIA. At the time of writing this has not been received but once available, it will be forwarded to Council under separate cover. There has been ongoing dialogue with Waitaha representatives in this regard. Comment will be made once the formal document has been received.

#### **8.11.9 Waiari Water Supply Consent**

Both TCC and WBOPDC have obtained a combined resource consent to take water from the Waiari Stream for municipal water supply purposes. The location of the water take is further upstream from the Te Puke WWTP and authorises up to 60,000 m<sup>3</sup>/day, over the next 35 years. The consent conditions require that the Consent Holder facilitates the formation and operation of a Kaitiaki Advisory Group to monitor the environmental effects of this water take. The following parties are members of the group:

- Representatives from Tauranga City Council and Western Bay of Plenty District Council;
- Local iwi/hapu representatives (including representatives of Waitaha and Tapuika);
- Chief Executive of the Regional Council or delegate

The Kaitiaki Advisory Group meets for the following purposes:

- To consider the monitoring requirements and outcomes for regular surveys of fish and invertebrates above and below the water take site, and also above and below the Te Puke wastewater treatment plant discharge point (downstream); such surveys to include temperature, pH, turbidity, dissolved oxygen, invertebrate composition on hard substrates and macrophytes, macro invertebrate indices and abundance, and fish composition and abundance of the species present.
- To discuss other monitoring undertaken in relation to environmental, heritage, cultural, economic and recreational aspects;
- To determine actions to be taken in response to monitoring reports as appropriate;
- To provide an advisory role on Part 2 RMA matters, particularly s6(e) and 7(a) RMA;
- To inform the Regional Council of the effects of the water take on the mauri and mauriora of the Waiari River;
- To review and provide feedback on the Water Conservation Strategies and targets for reduction in domestic water consumption, wastage and loss for both local authorities; and
- To discuss other relevant matters agreed by the Kaitiaki Advisory Group.

The recommendation is for a similar Kaitiaki Advisory Group to be set up for the Te Puke WWTP consents; and it may be possible to consider whether there is any benefit in scheduling the meeting dates on the same day in terms of efficiency and similar issues to be considered.

It is also noted that under the conditions of the Waiari Water Supply Take consent RC65637, that monitoring is required above and below the Intake site as well as above and below Te Puke WWTP discharge point. The survey is to be undertaken by the consent holder (joint TCC and WBOPDC), recognising the potential effect of the water take on the mixing zone for the WWTP discharge of treated wastewater. Under Condition 7.2 of RC65637, the consent holder is to provide survey information to BOPRC and the Kaitiaki Advisory Group on temperature, pH, turbidity, dissolved oxygen, invertebrate composition (taxa richness, macroinvertebrate indices and species abundance), and fish composition.

## **8.12 Statutory Framework Conclusions**

The relevant provisions of the RMA for considering this application are Sections 104, 104B, 105, 107, 108 and 124. In summary, these provisions require consideration of Part 2 matters, relevant objectives and policies, and environmental effects. This is particularly relevant in determining whether or not any adverse effects will be more than minor and whether or not the activities will be contrary to the relevant objectives and policies.

Relevant objectives and policies of the NPS for Freshwater Management 2014, the Regional Policy Statement and regional plans have been provided for. Overall, the proposed works are consistent with these objectives and policies. Overall matters of concern around wastewater discharges into the Waiari Stream and Kaituna River,

amongst other factors; and mitigation recommendations/suggested conditions from the consultation and CIAs provided have been taken into account and where possible, reflected in the proposed conditions of consent.

An assessment of actual and potential effects arising from the operation of the WWTP is provided in section 7 of this report. Overall, provided the proposed upgrades and various mitigation measures are implemented, the adverse effects of continuing the operation of the Te Puke WWTP and associated discharges will not be significant.



## 9.0 Proposed Resource Consent Conditions

The following activities are authorised by these consents:

- a) A permit pursuant to section 15 (1)(a) of the Resource Management Act 1991 and Rule 37 of the Bay of Plenty Regional Water and Land Plan to undertake a discretionary activity being to Discharge Treated Effluent to the Waiari Stream subject to the following conditions:
- b) A permit pursuant to section 15 (1)(b) of the Resource Management Act 1991 and Rule 37 of the Bay of Plenty Regional Water and Land Plan to undertake a discretionary activity being to Discharge Treated Effluent to the Waiari Stream subject to the following conditions:
- c) Under section 15(2) of the Resource Management Act 1991 and Rule 19 of the Bay of Plenty Regional Air Plan to undertake a discretionary activity being to Discharge Potentially Odorous Gases from Te Puke Wastewater Treatment Plant to the Air subject to the following conditions:
- d) A resource consent under section 9(2)(a) of the Resource Management Act 1991 and Rule 85 of the Bay of Plenty Regional Water and Land Plan to undertake a discretionary activity being to Modify a Wetland.

### 1. Purpose

- 1.1 A Discharge of treated wastewater to land (the primary wetland) in circumstances where it may enter water (groundwater and the Waiari Stream); and to water (where there is a discharge through the riparian wetland to the Waiari Stream).
- 1.2 For the purpose of discharging seepage from a constructed wetland to land in circumstances where it may enter water (groundwater and the Waiari Stream).
- 1.3 For the purpose of discharging potentially odorous gases from Te Puke Wastewater Treatment Plant located on Gordon Street, Te Puke.
- 1.4 For the purpose of upgrading wastewater treatment infrastructure within the riparian wetland area to construct a bank-side perforated diffuser pipe and a rock passage chamber system; including reinstatement and enhancement works for the riparian wetlands.

### 2. Quantity and Rate

- 2.1 The daily quantity of effluent discharged shall not exceed 9000 cubic metres.
- 2.2 The rate of discharge shall not exceed 106 litres per second.

### 3. Point of Discharge Location

- 3.1 Discharge of treated wastewater shall be to the Waiari Stream via a diffuse riparian wetland seep.
- 3.2 *Discharge from seepage shall be to land via a subsurface wetland.*
- 3.3 Discharge to air shall be from the primary screen, the aeration tanks, clarifiers, sludge processing, wetland and associated operations as shown on Plan XXXX dated XXXX 2016, prepared by XXXX and submitted with the application.

### 4. Map Reference

- 4.1 At or about map reference NZMS 260 U14 040 750 [Waiari Stream]
- 4.2 At or about map reference NZMS 260 U14 045 752 [seepage from wetlands]
- 4.3 At or about map reference NZMS 260 U14 041 746 [potentially odorous gases]

### 5. Legal Description

- 5.1 Lot 1 DPS 37512, Lot 2 DPS 63396 Block II, Maketu SD (Western Bay of Plenty District)

## 6. Definitions

The following terms within these conditions shall have the following definitions:

“**Consent Holder**” means the Western Bay of Plenty District Council or their nominee.

“**Regional Council**” means the Bay of Plenty Regional Council’s Chief Executive Officer or their nominee.

“**WWTP**” means Te Puke Wastewater Treatment Plant.

“**Kaitiaki Group**” means a forum set up with members from Western Bay of Plenty District Council (WBOPDC), local Iwi/Hapu representatives from Tapuika and Waitaha, and the Chief Executive of the Regional Council or delegate; and which meets regularly to consider and report back on the monitoring requirements and outcomes of this consent and to make recommendations to the relevant WBOPDC committee regarding actions to be taken in response to monitoring reports as appropriate.

## 7. WWTP

7.1 The consent holder shall operate and maintain a wastewater treatment facility in accordance with the Operation and Maintenance Plan required under condition XXX.

## 8. General

8.1 The consent holder shall ensure that operators, contractors and trade waste dischargers are made aware of the conditions of this resource consent and ensure compliance with those conditions.

## 9. Effluent Quality

### 9.1 Effluent Quality

9.1.1 The consent holder shall take samples of the treated wastewater (immediately after UV disinfection, prior to discharge to the wetland) once per week. Samples shall be measured using a 24 hr flow proportioned composite treated effluent sample and shall be analysed by a certified laboratory for the following parameters:

1. Total nitrogen (g/m<sup>3</sup>)
2. Total phosphorous (g/m<sup>3</sup>)
3. Total suspended solids (g/m<sup>3</sup>)
4. cBOD<sub>5</sub> (g/m<sup>3</sup>)
5. pH
6. E. coli (cfu/100mL)

9.1.2 The total daily volume discharged from the WWTP shall also be recorded on a daily basis taken at approximately the same time each day. For the purposes of monitoring, the daily flow discharged from the WWTP shall not exceed 4,000 m<sup>3</sup>/day for 10 out of 12 consecutive samples, and shall never exceed a maximum value of 9,000 m<sup>3</sup>/day.

9.1.3 The water quality of the treated effluent measured for shall not exceed the limits specified in Table 1

Table 1 Treated Effluent Limits

Parameter	Effluent Limits	
	10 out of 12 consecutive samples	Maximum
cBOD <sub>5</sub>	20 g/m <sup>3</sup>	-
TSS	25 g/m <sup>3</sup>	-
TN		The mass of total

Parameter	Effluent Limits	
	10 out of 12 consecutive samples	Maximum
		nitrogen discharged per day, as measured by the analysis of a 24-hour composite sample (sampled hourly), shall not exceed 90 kilograms, until plant upgrades completed.* [see note below]
TN	20 g/m <sup>3</sup> required after plant upgrades within 6 years of commencement of this consent*	-
TP	15 g/m <sup>3</sup>	-
pH	6.5-7.5	
E. Coli	200 CFU/100 mL	1000 CFU/ 100 mL

Note\* Prior to implementation of upgrade works to the existing WWTP, the mass of total nitrogen discharged per day, as measured by the analysis of a 24-hour composite sample (sampled hourly), shall not exceed 90 kilograms. After the upgrade works are completed, the treated effluent limit shall be 20 g/m<sup>3</sup> based on 10 out of 12 consecutive samples. The plant upgrades required are to be completed within a period of 6 years from the commencement of this consent.

- 9.1.4 If under Condition 9.1.2 sample results exceed one of the specifications listed in Table 1 (as measured in accordance with Condition 14.1) the consent holder shall commence twice weekly sampling to again satisfy Condition 9.2.3. In the event that Condition 9.2.3 cannot be satisfied following such an event, the Chief Executive of the Regional Council (or delegate) may trigger a review of the monitoring conditions in accordance with Condition 22.
- 9.1.5 The consent holder shall keep records of sample analytical results. These records shall be made available immediately upon request to the Chief Executive of the Regional Council (or delegate).

## 10. Notifications

- 10.1 The permit holder shall notify the Regional Council and the Kaitiaki Group as soon as practicable and, as a minimum requirement, within 48 hours of any accidental discharge, plant breakdown or other contingency which is likely to result in an exceedance of the limits of these resource consents.
- 10.2 A written report shall be forwarded to the Regional Council and Kaitiaki Group within seven working days of the event occurring describing the incident, the reasons for it occurring, its consequences (including the nature of any complaints), the measures taken to remedy or mitigate its effects, and any measures taken to prevent a recurrence of the event, including any changes proposed to the Operation, Management and Environmental Plan.

## 11. Signage

- 11.1 For the duration of the consent, the Consent Holder shall install and maintain appropriate signage on the banks of the Waiari Stream to identify the location of the riparian wetlands and warning that treated wastewater is discharged to these wetlands.

## 12. Monitoring

- 12.1 Laboratory analyses as required under condition 9.1 shall be carried out as set out in the latest edition of "Standard Methods for the Examination of Water and Wastewater" - APHA - AWWA - WPCF or such other method as may be approved by the Chief Executive of the Regional Council (or delegate).
- 12.2 All samples taken shall be analysed by a laboratory that is accredited for that analysis to NZS/ISO/IEC 17025 or equivalent or to any other comparable standard approved by the Regional Council.

## 13. Wetland Decommissioning and Replacement

- 13.1 Within five years of the granting of this consent, the consent holder shall decommission the existing wetland and replace this with a bank-side perforated diffuser pipe and a rock passage system.
- 13.2 Prior to construction commencing the consent holder shall prepare and submit to the Chief Executive of the Regional Council (or delegate) for approval, a Construction Management Plan and final design details for the bank-side perforated diffuser pipe and a rock passage system. This will include details of riparian wetland reinstatement and enhancement works.

## 14. Technical Review

- 14.1 Every six years from the date of commencement of this consent, the consent holder shall undertake a Technical Review of the Te Puke wastewater treatment plant facilities to assess the performance of the treatment and discharge facilities, Population Equivalent projections for the next six years, consideration of receiving wastewater from any other business park or industrial activities in the wider area, and the possible need for wastewater treatment plant capacity upgrades. The Technical Review shall include, but not be limited to, the following:
- Base and peak season monitoring of population contributions to determine the Population Equivalent;
  - An assessment of the performance of the wastewater treatment plant facilities, inclusive of the results from any other monitoring undertaken in accordance with this consent, cultural monitoring, and any other monitoring undertaken/commissioned by the Kaitiaki Group.
  - Address ongoing compliance with the conditions of the consent and, in particular, any reported non-compliance with consent conditions, and the need for any upgrades required;
  - Include an assessment of compliance/consistency with any relevant national or regional water quality policies, standards or guidelines in effect at the time;
  - A summary of any residual actual or potential adverse environmental effects of the discharge of treated effluent, irrespective of whether those environmental effects are in accordance with the conditions of this consent; and
  - The appropriateness of monitoring indicators and monitoring methods including reference to any appropriate new monitoring indicators and/or guidelines.

- 13.2 The Technical Review results shall be reported to the Regional Council, the Kaitiaki Group and Te Maru O Kaituna within 6 months of commencing the review.

## 15. Odour

- 15.1 The consent holder shall operate, manage and maintain the WWTP in a manner that shall not result in any objectionable odours at or beyond the outer extent of the designated boundary of the wastewater treatment plant environmental protection buffer as set out in the Western Bay of Plenty District Plan.
- 15.2 All vehicles transporting biosolids off-site are to be covered with a tight-fitting tarpaulin to reduce the potential for odour nuisance from this source.

## 16. Operation and Maintenance Plan

16.1 The consent holder shall submit an Operations and Maintenance Plan (OMP) for the WWTP to the Regional Council, which details the procedures that will be implemented to discharge treated wastewater in accordance with the conditions of this resource consent. The OMP shall include the results of any consultation undertaken in developing the OMP.

The OMP shall be lodged with the Regional Council within 12 months of the date of granting of this consent for certification that it meets conditions xyz of this consent.

The OMP shall be reviewed and updated as a minimum every six years. Any changes to the OMP shall be lodged in writing by the consent holder for certification that it continues to meet conditions xyz of this consent.

16.2 The OMP shall address, but may not be limited to, the following:

- Location and design of WWTP
  - A description of the entire treatment system
  - Plans detailing key components of the treatment and disposal facilities
  - Wastewater treatment plant process diagram and relevant detailed design drawings
  - Location and specification of monitoring sites at the WWTP
- a. Operation and maintenance
- i. A description of routine inspection and maintenance procedures to be undertaken with respect to the treatment plant and discharge components, including seepage to land from the wetlands, discharge of potentially odorous gases, and discharge of treated wastewater to the riparian wetlands adjoining the Waiari Stream.
  - ii. Procedures for recording routine maintenance and all repairs that are undertaken
  - iii. Storage and handling procedures for any chemicals to be stored on site.
  - iv. Onsite responsibilities, including names and contact telephone numbers for operational staff and a 24 hour contact telephone number
  - v. Contingency measures, including spill and breakdown response plans, in place to deal with unusual events. This should include measures to notify the Medical Officer of Health as soon as practical where a spill or breakdown occurs that may have a public health risk, including the notification of the measures being implemented to mitigate the occurrence and associated public health risk.
- b. Monitoring
- i. A monitoring programme that details the monitoring requirements under Condition 9.1.
- c. Reporting
- i. Reporting requirements
  - ii. Non-compliance reporting
  - iii. Audit and review of the Plan
- d. Other
- i. Details of complaints procedure, record keeping and response procedure
  - ii. Other actions necessary to comply with the conditions of consent
  - iii. Procedures for improving and/or reviewing the Plan.

## 17. Reporting

17.1 The monitoring results required under conditions XXX and XXX shall be sent to the Regional Council, the Kaitiaki Group and Te Maru O Kaituna on a monthly basis.

17.2 The consent holder shall, annually from the commencement of this resource consent and, by the 1st of August each year, provide to the Regional Council, the Kaitiaki Group and Te Maru O Kaituna a written monitoring report that:

- a. Includes all sampling and monitoring results and records as required by the Operations, Management and Environmental Plan and consent conditions covering from 1 July to 30 June of each year;
- b. discusses sampling and monitoring results and trends, exceedances and actions taken
- c. site management;
- d. complaints and how these have been addressed; and
- e. any areas where improvement is required.

17.3 Prior to submitting the annual report to the Regional Council, the consent holder shall be available to meet with the Kaitiaki Group and Te Maru O Kaituna to discuss the annual report.

## 18. Investigation of Alternatives

18.1

a. The consent holder shall establish and retain by appointment a Wastewater Advisory Group (WWAG) to complete the Investigation of an Alternative Disposal Method. There shall be a positive commitment on the part of Council as consent holder to investigate alternative effluent disposal options to the current discharge to riparian wetland/Waiari Stream. It is acknowledged that the consent holder will at all times use its best endeavours to meet this commitment but that it cannot guarantee absolutely that it will be able to provide a practicable alternative at the expiry of the consent.

b. The permit holder shall provide resources for organisational and administrative support to facilitate the development, role and function of the WWAG.

The WWAG shall comprise representatives of:

- Tangata Whenua
- Kaitiaki Group
- Community representatives
- Western Bay of Plenty District Council staff
- Others member who the WWAG shall determine who may have a particular contribution to make the workings of the group

The WWAG may appoint or invite, other persons to participate in an advisory or consultative capacity.

The composition of the WWAG is subject to invitee's willingness to participate.

c. The Terms of Reference for the WWAG shall include, but not be limited to:

- To receive and provide information and feedback on the Alternative Disposal Options Investigation Study including the scope and methodology of the investigations and progress of the investigations
- Act as the channel for broader community input as necessary
- Use best endeavours to finding an agreed way forward and seeking agreement with the group on its advice to Council

Note the WWAG is not a decision-making body

## 18.2

- a. The consent holder shall initiate the Alternative Disposal Options Investigation Study within 6 months of the commencement of this consent; and within 12 months shall with the WWAG have formulated the scope and methodology of the investigations. For the purpose of implementing this commitment, the consent holder shall observe the following:
  - i. Undertake Stage 2 of the Options Assessment and Selection Staging as indicated in the Alternative Disposal Options Assessment report dated 30 November 2015. This shall occur over the period 2016 – 2020. During the year 2020, the consent holder shall submit to the Bay of Plenty Regional Council a report detailing the results of the Site Selection GIS based constraints analysis (as required by Stage 2 of the Options Assessment and Selection).
  - ii. Undertake Stage 3 of the Options Assessment and Selection Staging as indicated in the Alternative Disposal Options Assessment report dated 30 November 2015. This shall occur over the period 2020 – 2026. During the year 2026, the consent holder shall submit to the Bay of Plenty Regional Council a report detailing the Alternative Disposal Option Scheme Selection confirmation (as required by Stage 3 of the Options Assessment and Selection).
  - iii. The studies to be completed and as required under condition XXX (i) – (ii) above shall have regard to engineering, cultural, environmental, financial and other relevant considerations.
- b. The consent holder shall report annually to the Regional Council, Kaitiaki Group and Te Maru O Kaituna on progress of the Alternative Disposal Options Investigation Study, for the duration of this Study.
- c. The Regional Council may within six months of receiving the final report under Condition XXX (a)(ii) above of this consent serve notice on the Consent Holder under section 128(1)(a)(i) and/or (iii) of the Resource Management Act 1991 of its intentions to review the conditions of this consent. The purpose of the review would be to assess the outcome of the investigation required under Condition XXX (a) above in terms of the engineering, cultural, environmental, financial and other relevant considerations; and to determine how best to proceed with any preferred alternative disposal option.

## 19. Complaints

- 19.1 The consent holder shall maintain and keep a Complaints Register for all complaints made about the treatment and discharge operations that relate to air discharges received by the consent holder. The Register shall record:
- a. The date, time and duration of the event/incident that has resulted in the complaint
  - b. The name and address of the complainant
  - c. The location of the complainant when the event/incident was detected
  - d. The outcome of a site and boundary survey following notification of the issue including an assessment as to whether the odour was likely to have been of an intensity or nature that was offensive,
  - e. The possible cause of the incident
  - f. The weather conditions and wind direction at the site when the incident allegedly occurred, if significant to the complaint
  - g. Any corrective action undertaken by the consent holder in response to the complaint.
- 19.2 The Complaints Register shall be made available to the Bay of Plenty Regional Council at all reasonable times.
- 19.3 Complaints which may indicate non-compliance with the conditions of this resource consent shall be forwarded to the Bay of Plenty Regional Council within 5 working days of the complaint being received.

## 20. Kaitiaki Group

20.1 The consent holder shall form a Kaitiaki Group to liaise and meet for the following purposes in relation to the activities authorized by this consent:

- To consider and report back on the monitoring requirements and outcomes under condition XXX of this consent; and
- To discuss the results of other monitoring undertaken or commissioned by the Group, which may include monitoring the adverse effects on environmental, heritage, cultural, economic and recreational aspects; and
- To consider and report back on the technical review outcomes under condition XXX of this consent; and
- To consider and report back on the alternative disposal investigation outcomes under condition XXX of this consent; and
- To make recommendations to the consent holder regarding actions to be taken in response to monitoring reports, technical review, investigation of alternatives, and any section 128 RMA review matter as appropriate; and
- To make recommendations to the consent holder and the Regional Council in relation to Part 2 and, in particular, to sections 6(e) and 7(a) of the Resource Management Act, as they relate to this consent; and
- To inform the consent holder and the Regional Council of the effects of the treated wastewater discharge authorized under this consent on the mauri and mauriora of the Waiari Stream; and
- To discuss any other relevant matters that may be agreed by the Kaitiaki Group.

20.2 The consent holder shall invite the following parties to participate in the Kaitiaki Group:

- Representatives from WBOPDC;
- Local Iwi/Hapu representatives (including representatives of Tapuika and Waitaha); and
- Chief Executive of the Regional Council or delegate.

20.3 The consent holder shall convene a meeting of the Kaitiaki Group on a regular basis, being within 6 months after commencement of this consent, and annually thereafter; or as required by the Kaitiaki Group.

20.4 The consent holder shall provide a written invitation to the members of the Kaitiaki Group at least ten working days before a proposed meeting is to be held.

20.5 The meetings shall be held at a convenient location as agreed by the Kaitiaki Group. The costs of the meetings relating to venue hire, facilities and food, tea and coffee, (not including costs relating to attendees travel/accommodation) shall be borne by the consent holder. A daily meeting fee for representatives from the local Iwi/Hapu invited to the Kaitiaki Group shall be determined by the consent holder in liaison with the respective parties invited.

20.6 The minutes of the meetings of the Kaitiaki Group shall be provided to all attendees by the consent holder promptly following each meeting.

20.7 The consent holder shall cease to convene any further meetings of the Kaitiaki Group if all members of the Kaitiaki Group agree the Group is to be disbanded. The consent holder shall give written notice of this to the Chief Executive of the Regional Council, or delegate.



## 21. Review of conditions

22.1 The Regional Council may:

on the anniversary of the commencement of the consent; or within six months of receipt of any report submitted to the Regional Council under any condition of this consent or any report required as a result of compliance monitoring by Council; or where condition 9.1 and 9.2 cannot be satisfied; serve notice on the consent holder of its intention to review the conditions of this consent, under s128 of the Resource Management Act 1991.

22.2 The purposes of this review may include:

- a. To modify any required monitoring/reporting and/or specify additional monitoring/reporting and/or change the monitoring/reporting frequency required to address any identified adverse effects;
- b. To assess, and if necessary to address, any identified adverse effects of any of the discharged treated wastewater on the environment which may arise from the exercise of the resource consent and which it is appropriate to deal with at a later stage;
- c. To assess and if necessary to review current discharge limits and controls;
- d. To require the consent holder to adopt the best practicable option in accordance with section 128(1)(a)(ii) of the Resource Management Act 1991;
- e. To ensure that management practices at the site are consistent with any provisions or restrictions that are required to be implemented by the Regional Council for any National Environmental Standards (NES)
- f. Addressing any issues identified in the annual reports submitted under condition XX, or as identified in the six yearly Technical Review report submitted under condition XXX of this resource consent.

## 22. Term of Consent

The term of the consent is 35 years from the date of commencement of this consent.

## 23. Resource Management Act Charges

The Consent Holder shall pay the Regional Council such administrative charges as are fixed from time to time by the Regional Council in accordance with section 36 of the RMA.

### **Proposed bank-side perforated diffuser pipe and rock passage chamber:**

Further conditions may be required in relation to the consent under Rule 85 of the RWLP to modify riparian wetlands for the installation of the proposed bank-side perforated diffuser pipe and rock passage chamber; particularly where such works are required within six years. Refer to **Appendix B** for site plan details of the bank-side perforated diffuser pipe and rock passage chamber.

Final design details and construction management details can be provided to regional council for approval prior to work commencing, and this can be included as a consent condition. Details on reinstatement works for the riparian wetlands and also on riparian bank enhancement works can also be provided to regional council for approval prior to work commencing, and this too can be addressed as a consent condition.

## 10.0 Notification Determination

### 10.1 Public Notification

#### RMA Provisions

Under s.95A(1) of the RMA a consent authority has discretion in deciding whether to publicly notify an application for resource consent. Under s.95A(2) public notification is, however, required if:

- a) The activity will have or is likely to have adverse effects on the environment that are more than minor; or
- b) The applicant requests public notification; or
- c) A rule or national environmental standard requires public notification.

Under s.95A(3) a consent authority must not publicly notify the application if a rule or national environmental standard precludes notification and the applicant has not otherwise requested notification. Notwithstanding this, a consent authority may still publicly notify an application if it decides that special circumstances exist in relation to the application (s.95A(4)). "Special circumstances" have been defined by the Court of Appeal as those that are unusual or exceptional, but they may be less than extraordinary or unique (*Peninsula Watchdog Group (Inc) v Minister of Energy* [1996] 2 NZLR 529). With regard to what may constitute an unusual or exceptional circumstance, Salmon J commented in *Bayley v Manukau CC* [1998] NZRMA 396 that if the district plan specifically envisages what is proposed, it cannot be described as being out of the ordinary and giving rise to special circumstances.

We note that pursuant to s95A(2)(b) of the RMA, WBOPDC requests public notification for the application; and would also note the request from some of the stakeholders consulted who have requested that they be served a copy of the public notice at the time of public notification.

### 10.2 Limited Notification

#### RMA Provisions

Under s.95B(1) of the RMA, if an application is not publicly notified then the consent authority must decide if there are any 'affected persons' in relation to the activity. Any affected person must be given limited notification of the application, unless a rule or national environmental standard precludes limited notification (s.95B(2)).

Under s.95E(1) a consent authority must decide that a person is an affected person if the activity's adverse effects on that person are minor or more than minor (but are not less than minor). In making its decision, the consent authority may disregard an adverse effect of the activity on the person if a rule or national environmental standard permits an activity with that effect (s.95E(2)).

Notwithstanding the above, a consent authority must decide that a person is not an affected person if that person has otherwise given their written approval to the activity (s.95E(3)).

## 11.0 Summary and Conclusion

The proposed discharges to water and air are necessary to ensure that the existing Te Puke wastewater network has sufficient existing and future capacity, and can continue to provide for the safe and efficient treatment and disposal of wastewater for the area of service. These discharges are associated with critical infrastructure for the Te Puke township that directly enable people and the community to provide for their social, economic, and cultural wellbeing.

Provided that the discharges of treated wastewater operate in accordance with appropriate conditions to manage and address effects on the environment, they are consistent with the sustainable management purpose of the RMA.

In evaluating the resource consent applications, the consent authority is obliged, subject to Part 2, to have regard to the actual and potential effects on the environment of allowing the activity, any relevant planning documents, and any other matters considered to be relevant before exercising an overall broad judgement whether or not grant the application. This requires a comparison of the overall benefits of retaining the Te Puke WWTP on the existing site (with associated upgrades to the treatment plant facility) with any adverse effects on the environment. This AEE has shown that the WWTP is not having significant adverse effects on the existing environment and that is expected to continue into the future.

With regards to the investigation into alternatives, it is recognised that this is a requirement under s105(1)(c) RMA to have regard to “any possible alternative methods of discharge, including discharge into any other receiving environment”; and that while WBOPDC is committed to continuing to treat waste at the Te Puke WWTP site, WBOPDC recognises that there could well be advantages in having an alternative disposal available in the future. These investigations will take a few years; and there is no certainty that the investigation will result in a suitable option being confirmed. However, it is hoped that a favourable alternative is found as this helps WBOPDC create certain options to address future uncertainties; which include the following:

- Whether future volumes of wastewater to be treated at Te Puke WWTP, and then disposed, would exceed 9,000m<sup>3</sup>/day; and therefore, require alternative disposal for the volumes in excess of 9,000m<sup>3</sup>/day;
- The unknown volumes of waste likely to be generated from Rangiuuru Business Park over the next ten, twenty, thirty years have a part to play in this uncertainty for Te Puke WWTP, firstly whether wastewater will actually be piped to Te Puke WWTP, and secondly whether the volume will be as high as 6,000m<sup>3</sup>/day or possibly greater over time, i.e. this large volume combined with wastewater from Te Puke's residential population (at that time) would then exceed the discharge volume of 9,000m<sup>3</sup>/day currently allowed for at Te Puke WWTP;
- Whether there are significant changes in the future regarding water quality standards that require a change to the volume of treated wastewater that can continue to be discharged into the Waiari Stream environment; i.e. any additional volume above what is (now) acceptable for discharge to the Waiari Stream, would require alternative disposal. This may possibly be as a result of follow up work by BOPRC in relation to the requirements of the NPS for Freshwater Management for reviewing water quality standards in the Waiari Stream/Kaituna River catchment; and
- Whether there could be a much better alternative involving beneficial re-use of the treated wastewater, such as discharge to recreational/reserve land, or to wetlands, forests or paddocks for dry stock (non-dairy production), or for cut and carry fodder crops.

During consultation, there was support from the community and Tangata Whenua to continue investigating alternatives; either as an alternative to ongoing discharges into the Waiari Stream, or as a way to address any increase in the volume of treated wastewater received at the plant while maintaining the current discharge to the Waiari Stream.

Through consultation with the respective iwi/hapu groups, work has progressed on preparing CIAs. A CIA has been prepared by Tapuika Iwi Authority and a summary statement has been provided by Ngati Pikiao ki Tai; and further CIA details are to follow from both Ngati Pikiao ki Tai and Waitaha. This has helped to address matters of cultural significance with respect to sections 6(e), 7(a) and 8 of Part 2 of the RMA. In light of the issues raised by the respective iwi/hapu groups, it is recommended that these issues be addressed through various consent conditions. Accordingly the consent conditions proposed as set out in section 9 of this report provide for tangata whenua involvement, provision of monitoring details to iwi/hapu groups and a Kaitiaki Advisory Group.

The existing environment is as it exists today, and includes the lawful discharges of the WWTP to date. The proposal includes various mitigation measures as recommended by the different specialists and contained in their reports attached to this application. These mitigation measures can be included as conditions to the resource consents, in addition to the recommended conditions for monitoring and review provisions.

With regards to the effects on the Waiari Stream and subsequently the Kaituna River from the continued discharge of treated wastewater, the AEE has identified that the discharge flow of 9000 m<sup>3</sup>/day will not be changed and that more stringent monitoring parameters are proposed to ensure ongoing and effective mitigation of environmental effects within both water bodies. It is considered that after reasonable mixing with increased distance from the discharge point the Te Puke WWTP is unlikely to be having an adverse effect within the water bodies. It is important to note that the Waiari Stream and particularly the Kaituna River are highly impacted by the surrounding agricultural practices and point discharges, on top of the existing discharge from the WWTP and that these other practices affect the sensitivity of the receiving environment.

There are a number of other benefits associated with this project including (but not limited to) riparian bank enhancement works, greater community involvement through the proposed cycleway/walkway and wetland enhancement opportunities. On balance, given the continued ability of the WWTP to service the wastewater requirements of the Te Puke community and also provide for further population growth; and the positive benefits identified above, the effects are considered to be acceptable.

With regards to maintaining water quality within the Waiari Stream receiving environment and downstream Kaituna River catchment, WBOPDC is aiming to achieve this through the combination of mitigation measures proposed, WWTP upgrades identified, more stringent levels for water quality to be met, and the various environmental enhancements presently under consideration by council. The removal of the constructed wetlands and replacement with the proposed bank side perforated diffuser system with rock passage chamber enables greater community involvement with the wetlands, including opportunities for community use (education, eel farming and food gathering) as well as greater connectivity through the proposed cycleway/walkway.

In relation to the term of the consent, this reflects both the fact that the Te Puke WWTP is not having significant adverse effects on the environment and that the Applicant requires a level of certainty to reflect the value of its investment in the community asset. The appropriate RMA technique to address potential adverse effects is the use of a review condition, pursuant to s128 RMA; and not, in our opinion, any short term consents which require continuous renewal applications every few years.

An appropriate set of conditions (as proposed) can be included with the resource consents and the review clause will ensure that these conditions can address the effects on the receiving environment for the long term. The key issue is mitigation, which is achieved by consent conditions, rather than expecting the Te Puke WWTP to cease operations after a shorter period and subsequently repeat the whole application and AEE process again under the RMA. The longest possible term for consent under s123 RMA is 35 years, and this is the period of consent sought for these consents with the appropriate mitigation measures proposed, consent conditions and the necessary review clause provisions.

## Appendix A

# Certificates of Title

## Appendix B

# Site Location and Associated Plans

## Appendix C

# Existing Resource Consents

## Appendix D

# Air Quality Assessment



Appendix E

# Public Health Assessment

## Appendix F

# Water Quality, Stream and Terrestrial Ecology Assessment

## Appendix G

# Consultation Details

Appendix H

# Process Operation Review Report

Appendix I

# Alternative Options Assessment Report