

**BEFORE AN INDEPENDENT HEARINGS
PANEL OF THE WAIKATO REGIONAL COUNCIL**

IN THE MATTER of the Resource Management
Act 1991

AND

IN THE MATTER of an application by Watercare
Services Limited for regional
resource consents required for
the Pukekohe Wastewater
Treatment Plant at Parker Lane,
Buckland

**STATEMENT OF EVIDENCE OF MARK DOUGLAS BOURNE ON BEHALF OF
WATERCARE SERVICES LIMITED**

1. INTRODUCTION

- 1.1** My full name is Mark Douglas Bourne. I am the Manager of Infrastructure and Environmental Planning at Watercare Services Limited (**Watercare**).
- 1.2** I hold a Diploma in Business and New Zealand Certificate in Engineering NZCE (Civil).
- 1.3** I have been employed by Watercare and its predecessor organisations for 27 years and have held a very wide variety of roles including infrastructure planning, trade waste and operations management. In my current role I am responsible for managing the infrastructure planning and consenting process for all of Watercare's operations and projects, ensuring compliance with Watercare's resource consents and overseeing Watercare's engagement in policy formation.
- 1.4** Of particular relevance to this resource consent application is that in my previous role I was responsible for the operation of Auckland's wastewater treatment plants and major wastewater network components. This allowed me to gain an understanding of the total Pukekohe wastewater system along with Watercare's overall approach to wastewater management.
- 1.5** This evidence is provided on behalf of Watercare in support of its application for three regional resource consents required for the Pukekohe Wastewater Treatment Plant (**WWTP**) at Parker Lane, Buckland (**Project**).

- 1.6** My involvement in the project has been that of Project Director, where I have overseen the strategic management of the Project and directed expert engagement.

2. SCOPE OF EVIDENCE

2.1 In this evidence I will:

- (a) Discuss the Project's development, from the first consent application lodged in March 2015 (**2015 Application**) to the current consent application lodged in September 2016 (**Current Application**);
- (b) Outline the current and projected population and commercial/industrial growth that is occurring and is planned in Auckland and parts of the Waikato District served by the Pukekohe Wastewater Treatment Plant;
- (c) Discuss the Project drivers, including the Vision and Strategy for the Waikato River and the Best Practicable Option (**BPO**);
- (d) Introduce the proposed Enhanced Membrane Bioreactor + UV (**MBR + UV**) treatment process and high standard of treated wastewater that will be discharged to the Parker Lane Stream;
- (e) Outline Watercare's approach to working with mana whenua;
- (f) Outline the proposed Pukekohe Wastewater Scheme capital cost, and the related need for a 35 year consent;
- (g) Address one aspect of the Waikato Regional Council (**WRC**) officer's report.

3. SUMMARY

- 3.1** The Current Application was developed after further engagement with Te Taniwha o Waikato after lodgement of the 2015 Application. It involves an upgraded WWTP MBR+UV process, with a continuation of the treated wastewater discharge to the Parker Lane Stream, rather than a discharge directly to the Waikato River as had been proposed in the 2015 Application.
- 3.2** The Pukekohe WWTP receives and treats wastewater from Pukekohe, Patumahoe, Buckland, Pokeno and Tuakau. The consents sought are necessary to accommodate significant ongoing growth in Auckland and North

Waikato District. The population in the area serviced by the WWTP is expected to increase from 26,000 in 2015 through to 82,200 in 2051.

- 3.3** Along with this growth, the key Project drivers have been the Vision and Strategy for the Waikato River, the BPO under the RMA, and Watercare's responsibility to plan for and facilitate growth in Auckland and North Waikato District (including under Watercare's servicing agreements with WDC) through the provision of water and wastewater services. These project drivers have resulted in the two stage application now before the Commissioners, which involves Enhanced MBR + UV treatment process as Stage 2.
- 3.4** Watercare is committed to meaningful engagement with mana whenua on an ongoing basis, and of particular relevance to this Project, has relationship agreements with Waikato Tainui (Te Taniwha o Waikato) and Ngāti Te Ata.
- 3.5** Watercare's asset management plan includes \$143M for upgrading the existing WWTP to an Enhanced MBR + UV treatment process, and \$59M for a new wastewater pipeline from Pukekohe Township to the WWTP. These projects represent a major capital investment for Watercare. Given the level of this investment, and to provide certainty for future investment and growth in the serviced area in both Auckland and North Waikato, it is important for Watercare to have long term certainty about its ability to of the Proposed Wastewater Scheme. These are critical considerations in seeking a 35 year duration for the proposed consents.
- 3.6** The costs of installing and operating a potable water treatment plant technology at the WWTP (as recommended in the Officer's report) are significant, and in my view unnecessary in light of the purpose of wastewater as opposed to water treatment.

4. PROJECT DEVELOPMENT

- 4.1** Watercare holds two regional resource consents for the WWTP, both granted on 20 July 1995. Resource consent 940331 allows for the discharge of up to 8,450m³/day of treated wastewater (dry weather flow) via a seepage bed to the Parker Lane Stream (a tributary of the Waikato River). That consent also covers the discharge of contaminants to air (odour) from the WWTP site. Resource consent 940332 authorises the construction of a stopbank and the placement of a structure in the bed of the Parker Lane Stream to provide flood protection and allow diversion of the Stream.
- 4.2** These two consents expired on 30 June 2015. In order for Watercare to continue to operate the WWTP in accordance with these existing consents until new consents are issued, Watercare lodged applications for new consents, in accordance with section 124(1) of the Resource Management Act 1991 (**RMA**), on 3 March 2015 (the 2015 Application). WRC agreed under section 124(2) to allow Watercare to lodge the 2015 Application at least three months before consent expiry, to allow for summer monitoring of the Parker Lane Stream.
- 4.3** After lodgement of the 2015 Application and accompanying assessment of environmental effects (**AEE**), Watercare requested that WRC put the application on hold pending the results of a technical investigation into the dilution/dispersion of the (at that time) proposed direct discharge of treated wastewater to the Waikato River, and the receipt of a cultural impact assessment (**CIA**) that was being prepared by the mana whenua group Te Taniwha o Waikato. Results of a NIWA investigation into the effects of the existing discharge to the Parker Lane Stream (primarily in terms of dissolved oxygen and mixing) were also being completed.
- 4.4** After receiving a CIA in February 2016 (**2016 CIA**) and feedback from Te Taniwha o Waikato, Watercare undertook a series of further investigations into alternative discharge locations and methods. At the same time it engaged further with Te Taniwha o Waikato to develop an alternative solution to that set out in the 2015 Application.
- 4.5** The process of moving from the Phase One, short-term application for seven year consents set out in the 2015 Application, to the longer-term Phase Two consent application (i.e. the Current Application), is set out in section 1.1 of the AEE accompanying the Current Application lodged in September 2016. **Attachment A** of my evidence (being Figure 1-1 from that AEE – Project Development Schematic and Programme) shows the sequence through the

Phase One and Phase Two process diagrammatically. Mr Bradley elaborates on the alternatives assessment process, and how a stepwise process was followed through the Phase One and Phase Two evaluation to arrive at the preferred option which is now being advanced.

4.6 The outcome of these investigations and engagement with Te Taniwha o Waikato was the identification of the preferred option. This was developed into the current resource consent application and AEE for an upgraded WWTP MBR+UV process, with a continuation of the treated wastewater discharge to the Parker Lane Stream, rather than a discharge directly to the Waikato River as had been proposed in the 2015 Application. This treatment sequence has now become known as the Proposed Pukekohe Wastewater Scheme.

4.7 The proposed Pukekohe Wastewater Scheme requires the following resource consents from WRC:

- (a) Discharge permit to discharge up to 104,800 cubic metres per day of treated wastewater to the Parker Lane Stream from the WWTP;
- (b) Discharge permit to discharge contaminants to air, including odour, from activities associated with the WWTP; and
- (c) Discharge permit to discharge treated wastewater (via seepage) to land and groundwater from activities associated with the WWTP.

5. CURRENT AND PROJECTED POPULATION AND COMMERCIAL/INDUSTRIAL GROWTH

5.1 The WWTP receives and treats wastewater from Pukekohe, Patumahoe, Buckland, Pokeno and Tuakau. These contributing catchments are subject to growth that is anticipated under both Auckland Council and Waikato District Council/Waikato Regional Council planning documents. These various growth projections (in both Auckland and Waikato) are discussed further by Mr Tinholt and Mr Scrafton in their evidence.

5.2 The Auckland Plan 2012 sets out a strategy for the development of Auckland over the next 20-30 years, which includes moving to a quality, compact Auckland through integrated planning. To accomplish this goal, the Auckland Plan has identified areas of growth in existing and compact urban areas, and two satellite towns which will support growth in rural areas. Pukekohe has been identified in the Auckland Plan as one of these priority satellite towns to support 50,000 people – around double the current population – and the

creation of 9,000 new jobs over the next 30 years. Mr Cairncross from Auckland Council discusses the growth anticipated under Auckland Council's Unitary Plan, and its Future Urban Land Supply Strategy, in the parts of South Auckland serviced by the WWTP.

5.3 Mr Scrafton in his evidence discusses the Future Proof Strategy, which is a draft growth strategy for the Hamilton, Waipa and Waikato sub-region. This growth strategy establishes a strategic framework and approach to development in the Waikato District and other parts of the subregion. It was developed in response to significant pressure for land, infrastructure, services and amenities, as the population is set to double by 2061. The Pokeno area falls within the Waikato District and is currently undergoing significant residential, commercial and industrial growth.

5.4 Based on projected population growth figures provided by both Auckland Council and Waikato District Council, significant population growth is anticipated within the WWTP contributing catchment (from approximately 26,000 in 2015 through to 82,200 in 2051, that being 35 years from the year the Current Application was lodged. This population growth will be accompanied by a significant increase in business and trade waste discharges. Substantial investments in wastewater reticulation and treatment infrastructure are required to accommodate this growth.

6. PROJECT DRIVERS

6.1 In addition to the growth outlined above, Watercare's statutory obligations and its SOI obligations which are discussed by Mr Cunis in his evidence, there are a number of other drivers that have influenced the development of the Project. These include:

- (a) Meeting the vision, objectives and policies included in Auckland Council, Waikato District Council (**WDC**) and Waikato Regional Council (**WRC**) planning instruments, in particular the Vision and Strategy for the Waikato River (Schedule 2 of the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010);
- (b) The RMA concept of the BPO;
- (c) Watercare's responsibility to plan for growth in the Pukekohe, Buckland, Pātumahoe, Tuakau and Pokeno areas, including under Watercare's servicing agreements with WDC.

Vision and Strategy for the Waikato River

- 6.2** The Vision and Strategy for the Waikato River has been a key driver for the development of the Proposed Wastewater Scheme. This Vision refers to "a future where a healthy Waikato River sustains abundant life and prosperous communities who, in turn, are all responsible for restoring and protecting the health and wellbeing of the Waikato River, and all it embraces, for generations to come".
- 6.3** The Vision and Strategy sets a clear direction for the restoration and protection of the Waikato River. The Waikato River has been significantly degraded by the effects of activities upstream. Given this degradation and the objectives of the Vision and Strategy for the Waikato River, the proposed treated wastewater discharge will be treated to a very high standard using the best available wastewater treatment technology (enhanced MBR + UV), which results in significantly better quality discharge than at present. This solution has been developed in partnership with Te Taniwha o Waikato. Further detail is provided in the evidence of Mr Waiwai and Mr Scrafton, and in the CIA undertaken by Te Taniwha o Waikato.

BPO Approach

- 6.4** Watercare considers that an appropriate approach for determining the future consents for the Proposed Pukekohe Wastewater Scheme, given that they relate to the discharge of contaminants, is a BPO approach. The RMA defines the BPO in section 2 as follows:

In relation to a discharge of a contaminant or an emission of noise, means the best method for preventing or minimising the adverse effects on the environment having regard, among other things, to—

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

(b) the financial implications, and the effects on the environment, of that option when compared with other options; and

(c) the current state of technical knowledge and the likelihood that the option can be successfully applied.

- 6.5** Section 108(2)(e) of the RMA allows WRC to impose a condition of consent requiring Watercare to adopt the BPO to prevent or minimise any actual or likely adverse effect on the environment of the WWTP discharges.

6.6 A BPO approach has in recent years been used by a number of local authorities in assessing alternatives (options) and working with their communities, other key stakeholders and mana whenua to determine the most appropriate solution for municipal wastewater management. The BPO in the context of this Project allows the WRC as consent authority to consider:

- (a) the high quality of the proposed wastewater discharge and sensitivity of the receiving environment;
- (b) the financial implications and effects on the environment of the Wastewater Scheme as compared to other options; and
- (c) the current state of technical knowledge and the likelihood that Watercare's chosen option, involving MBR+UV, can be successfully applied.

6.7 Watercare's BPO adoption of the approach is shown in the alternatives assessment process (described in the evidence of Mr Bradley), which has identified and evaluated some 44 alternatives/options, some being progressively developed as the overall Project evolved;

- (a) A high-level comparative effects assessment has been undertaken of the following alternatives to the Proposed Wastewater Scheme:
 - (i) Land application of the median daily volume of treated wastewater with the balance during wet weather periods either stored or discharged to the Parker Lane Stream (and Waikato River) via constructed wetlands;
 - (ii) Tasman Sea outfall;
 - (iii) Aquifer recharge for potable reuse and other water supply use with the balance during wet weather periods either stored or discharged to the Parker Lane Stream (and Waikato River) via constructed wetlands; and
 - (iv) Beneficial reuse of treated wastewater.
- (b) The potential adverse environmental effects of these alternatives are described in detail in the AEE. Broadly speaking, whilst other options have the potential to contribute towards realising the Vision and

Strategy, there are a number of potential adverse effects of these alternative options that would require avoidance, remedying or mitigation. These include, for example:

- (i) Adverse effects of land application of treated wastewater on groundwater nitrate levels (already elevated in the Pukekohe District) and hence surface water quality;
 - (ii) Adverse effects on the coastal marine environment from a new treated wastewater discharge to the Tasman Sea;
 - (iii) Potential effects on groundwater quality from aquifer recharge and the need to dispose of the residual concentrated wastewater from the Advanced Water Treatment (AWT) process likely to be required for the aquifer recharge and beneficial reuse options.
- (c) The WWTP technology for the Proposed Wastewater Scheme is well proven overseas as is UV disinfection and to some extent MBR's in New Zealand and can be relied upon to provide a long-term and robust treatment process. The Enhanced MBR + UV technology presents a significant improvement in levels of treatment when compared to the existing WWTP. It also provides a double barrier for pathogen removal. This is discussed more fully in the evidence of Mr Morgan;
- (d) The Proposed Wastewater Scheme can be delivered within the Project timeframe and utilises reliable, robust and the most up-to-date treatment processes.

6.8 The Proposed Wastewater Scheme, once the Stage 2 upgrades are completed, will lead to an overall improvement in the water quality and ecology of the Parker Lane Stream and Waikato River (as described in the evidence of Mr Hall). Watercare have committed to undertaking riparian planting on the banks of the Parker Lane Stream (within land owned by Watercare) and providing fish passage on Parker Lane Stream weir.

Watercare's Responsibility to Plan for Growth in Pukekohe, Buckland, Patumahoe, Tuakau and Pokeno

- 6.9** This section of my evidence addresses Watercare's responsibility to treat and dispose of wastewater from Auckland Council, and from Waikato District Council's areas served by the WWTP.
- 6.10** Watercare is responsible for the provision of wastewater services to the Auckland region, and parts of the Waikato District that historically were part of the former Franklin District Council.
- 6.11** The WWTP receives wastewater from the townships of Pukekohe, Buckland and Patumahoe that lie within the Auckland region, and from Tuakau and Pokeno which lie within the Waikato District.
- 6.12** As noted by Mr Cunis in his evidence, Watercare is required to give effect to the relevant aspects of Auckland Council's Long Term Plan, and to act consistently with other specified plans and strategies of the Council¹. Watercare must plan to meet the wastewater requirements for the population growth projected by both Auckland Council and Waikato District Council. Watercare works closely with both councils to ensure that Watercare meets its obligations in that regard.
- 6.13** Watercare and Waikato District Council have had a close relationship since the integration of Auckland Council in November 2010, when Pukekohe WWTP was vested in Watercare as a CCO of Auckland Council and took on responsibility for its operation. At this time, Tuakau and Pokeno transitioned from being part of Franklin District Council to becoming part of Waikato District.
- 6.14** An agreement between Watercare and WDC was reached whereby Watercare continued to receive wastewater flows from Tuakau.
- 6.15** In 2014, a new 30 year agreement was reached which responded to the growth in Tuakau and the provision of services to Pokeno, providing volume and established quality limits appropriate for the capability of the WWTP and consent at that time. The 2014 agreement volume limits will be reviewed once the outcome of this consent application has been determined thus allowing for continued growth in WDC.

¹ Local Government (Auckland Council) Act 2009, section 58.

7. PROPOSED WASTEWATER SCHEME

- 7.1** The Proposed Wastewater Scheme developed by Watercare is to be implemented in two stages as set out below.

Stage 1 - Continuation of Existing Wastewater Treatment Process and Discharge to Parker Lane Stream

- 7.2** Stage 1 comprises continued use of the existing Sequencing Batch Reactors (**SBRs**) and UV disinfection followed by discharge to the Parker Lane Stream for a duration of four years after commencement of these resource consents (should they be granted).
- 7.3** This timeframe is designed to allow for the design, construction and commissioning of the Stage 2 WWTP upgrade (outlined below).

Stage 2 - Enhanced Nutrient Removal Membrane Bioreactor + UV Upgrade and Discharge to Parker Lane Stream

- 7.4** For Stage 2, to be commissioned within four years after commencement of these resource consents (should they be granted), Watercare proposes to convert the existing SBR process to an Enhanced MBR + UV process. The existing wetland and discharge arrangement to the Parker Lane Stream will be retained.
- 7.5** Altogether, the Enhanced MBR + UV treatment process will provide a very high quality treated wastewater. Currently, no other Enhanced MBR + UV treatment processes are used in New Zealand. There are however at least five municipal wastewater MBR WWTPs in New Zealand, and I understand Rotorua Lakes Council is also proposing an Enhanced MBR and UV disinfection system for its proposed treated wastewater discharge to Lake Rotorua.
- 7.6** Both Mr Morgan and Mr Bradley describe the Enhanced MBR + UV process in further detail. Mr Morgan's evidence (**Attachment A**) includes a schematic diagram showing the location of aspects of the existing WWTP, and the proposed wastewater treatment scheme.
- 7.7** A comparison between treated wastewater quality proposed for the Stage 2 discharges under Watercare's proposed consent conditions, and discharges under the existing resource consent, is shown in Table 1 below. The parameters in the table have been developed on a BPO basis, in line with Watercare's objectives under its Statement of Intent (SOI) with its shareholder

Auckland Council, and in light of the Vision and Strategy for the Waikato River which aims to restore and enhance the River and its tributaries.

Table 1: Comparison of Existing and Proposed Stage 2 Treated Wastewater Consent Conditions

Parameter	Existing Consent	Proposed Consent (Stage 2 – Enhanced MBR + UV)	Change Compared to Existing Consent
NH ₄ -N	10 mg/L (90%ile)	2.3 mg/L (90%ile)	77% improvement
cBOD ₅	12 mg/L (90%ile)	10 mg/L (90%ile)	17% improvement
TSS	18 mg/L (90%ile)	10 mg/L (90%ile)	44% improvement
TN	88 kg/day	88 kg/day (median)	Maintain
TP	44 kg/day	22 kg/day (median)	50% improvement
Faecal coliforms	1,000 cfu/100 mL (90%ile)	50 cfu/100 mL (median) (note this is for E. Coli)	Improvement ²

8. ENGAGEMENT WITH THE COMMUNITY AND MANA WHENUA

8.1 Watercare's approach to engaging with mana whenua and the community in respect of its activities is to engage early and often. This engagement does not end with the granting of a resource consent: Watercare instead recognises the importance of maintaining an open transparent approach in all aspects of our operations.

8.2 Watercare has developed and maintained informal relationships with all 19 iwi entities recognized by Auckland Council throughout the Auckland Region (Tāmaki Makaurau). By a relationship agreement dated 23 November 2012 Watercare entered into an agreement with the 19 iwi entities to form the Mana Whenua Kaitiaki Forum to achieve the mission:

Kaitiaki – Kaitiakitanga mauri – pupiri i te mauri kaitiaki mena ka tau te mauri i te taiao ka tau te oranga o te ira tangata.

If the life force of the environment is in balance, the well-being of mankind is assured.

² The existing 90%ile faecal coliform and proposed median E. coli conditions are not directly comparable therefore no percentage improvement has been calculated.

- 8.3** The Mana Whenua Kaitiaki Forum is not just for consultation on particular projects, with wider discussions on matters of mutual interest often being undertaken. Out of such discussions in 2014 Watercare funded and participated in a hikoi with representatives from the Mana Whenua Kaitiaki Forum around Waikato and the Bay of Plenty to investigate different wastewater treatment, discharge and beneficial reuse options.
- 8.4** The role of the forum has been received well and as a result is now council wide, Watercare maintains an operational Kaitiaki Managers' Forum which meets bi-monthly, however this doesn't supplant consultations with iwi or marae affected by any project.
- 8.5** As a demonstration of its commitment to the engagement with mana whenua generally and the Mana Whenua Kaitiaki Forum specifically, Watercare has a full time Iwi Liaison Manager.
- 8.6** Watercare has in addition to the regional approach developed and maintained individual relationships with iwi. In particular, Watercare has relationship agreements with Waikato Tainui and Ngāti Te Ata. These agreements are high level documents intended to be of an enduring nature and engagement that transcends any particular application or project. The relationship created by the agreement enables a review of any matter at any time by the parties. The relationship is based on mutual respect and integrity. The relationship promotes communication, trust and understanding between the parties.
- 8.7** In the case of Waikato Tainui, for this Project there has been a close working relationship with 9 marae covering iwi and hapū in the Lower Waikato River, collectively known as Te Taniwha o Waikato (Guardian of the Waikato). The 9 marae are:
1. Oraeroa Marae
 2. Taurangganui Marae
 3. Tikirahi
 4. Te Kotahitanga Marae
 5. Te Awamarahi Marae
 6. Ngā Tai E Rua Marae
 7. Mangatangi Marae*
 8. Hora Hora Marae
 9. Maurea Marae

*Mangatangi Marae is the principal marae for Ngāti Tamaoho.

- 8.8** To formalise the relationship an agreement was signed on 25 June 2015 between the individual marae collectively as Te Taniwha o Waikato and Watercare. All engagement between these marae and Watercare is pursuant to the relationship agreement and is intended to cover any authorisations required now and in the future for the facilities. The parties view this arrangement as appropriate as the Kaitiaki for the Lower Waikato come from these marae.
- 8.9** It is contemplated Watercare will pursuant to this agreement hold four meetings a year with Te Taniwha. This engagement reflects Watercare's general policy of integrated engagement of interested mana whenua at Watercare's Project table, or putting it colloquially, ensuring mana whenua has a "voice" at the project table. This gives mana whenua access to consultants and Watercare staff, and the opportunity to contribute their expertise and knowledge to the decision-making process.
- 8.10** Like Waikato Tainui, Ngāti Te Ata consider their relationship with Watercare as one of utmost importance. Ngāti Te Ata and Watercare have an express provision in their relationship agreement to
- Explore and facilitate opportunities for potable water and wastewater treatment such as the re-use of treated wastewater.
- 8.11** The relationship focuses on technology, economics and progressive improvements, rather than waiting for consent review dates. By understanding the total environment that Watercare operates in, it is easier for Ngāti Te Ata and other mana whenua to participate in identifying the BPO.
- 8.12** Over and above mana whenua engagement, Watercare also takes a proactive approach to engaging with the wider community. With regards to wastewater treatment plants, we have a number of community liaison groups specific to particular facilities. These usually meet annually and are an opportunity for the community to discuss treatment plant performance and any other matters, including issues that require resolution. Watercare also regularly holds open days at its water and wastewater facilities.
- 8.13** Watercare also recognises the importance of maintaining communication with the various elected representatives in the Auckland Region, and therefore regularly gives presentations to the local boards, including the Franklin Local Board, updating them on the progress of projects.

9. PUKEKOHE WASTEWATER SCHEME CAPITAL COST AND NEED FOR A 35 YEAR CONSENT

- 9.1** Watercare's asset management plan (**AMP**) includes \$143M for upgrading the existing WWTP to an Enhanced MBR + UV treatment process along with providing additional wastewater treatment infrastructure at the WWTP for growth of domestic and business / industry wastewater flows through to 2036.
- 9.2** The AMP also includes \$59M for the Pukekohe Trunk Sewer Upgrade (Pump Station and Rising Main) project. This Trunk Sewer Upgrade project is currently being constructed which consists of a new wastewater pipeline from Pukekohe Township to the WWTP.
- 9.3** Together, and as outlined by Mr Cunis in his evidence, both projects represent a major capital investment for Watercare, in response to the significant projected growth by Auckland Council and Waikato District Council that will be serviced by the Pukekohe Wastewater Scheme.
- 9.4** Watercare is seeking consent durations of 35 years. Watercare is proposing in the suggested conditions a rigorous monitoring and technology review by the 5th, 10th 20th and 30th anniversaries of commencement of the consents. These conditions will ensure the WWTP adheres to the BPO approach throughout the 35 year consent term.
- 9.5** Watercare and its customers have invested in a substantial and regionally significant infrastructure asset. The existing value of the Pukekohe wastewater collection, conveyance, treatment and discharge scheme is estimated at \$125M. This will increase to \$327M with the proposed upgrade.
- 9.6** It is important that Watercare has financial security for this substantial infrastructural asset and its upgrade providing for growth in domestic and business / industry waste water flows.
- 9.7** To achieve financial security and provide certainty for future investment and growth, it is important for Watercare to have long term certainty for the on-going operation of the Proposed Wastewater Scheme. This is a critical consideration in seeking a 35 year duration for the proposed consents.
- 9.8** The inevitability of population growth and demand in the Pukekohe WWTP catchment area in the long term further supports the granting of 35 year consent durations.

9.9 Mr Bradley further comments in his evidence on the issue of long-term (35 year) consents elsewhere in New Zealand for projects such as this one, where appropriate investigations, engagement and attention to the relevant planning instruments has been undertaken.

10. COUNCIL REPORT AND PROPOSED CONDITIONS

10.1 As other Watercare witnesses will comment on the various aspects of the Officer's Report and suggested consent conditions set out in that report, I will confine my comments to a single aspect of the report.

10.2 At page 30 of the Officer's Report there is a suggestion that Watercare could utilise treatment technologies used in water treatment plants (**WWTPs**) to improve the quality of the WWTP discharge, and then with this improved technology in place a longer duration could be supported.

10.3 The high level of treatment and quality of the discharge found with WTP technology reflects the purpose and compliance requirements of the discharge, which are provided for by the New Zealand Drinking Water Standards and the Health Act 1956. WTPs are naturally held to a very high treatment and quality standard due to the importance of protecting human health. Conversely, the purpose of wastewater discharge quality conditions are naturally not as stringent when discharging to a freshwater environment, and the purpose is one of the protecting the environment.

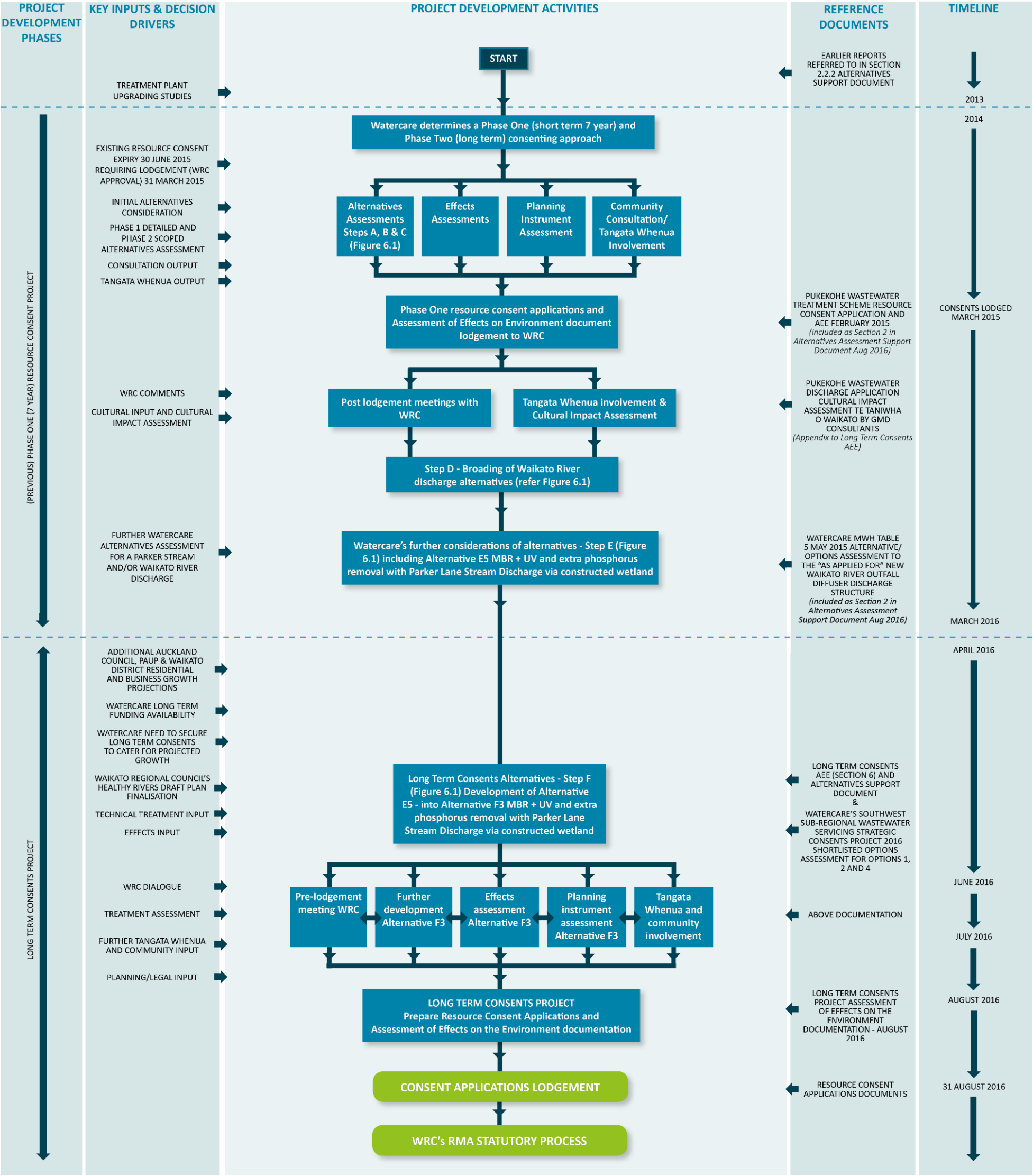
10.4 The costs of installing and operating WTP technology at a WWTP are significant (ie the estimated capital installation cost is \$80M³), and in light of the purpose of wastewater as opposed to water treatment, unnecessary in my view.

Mark Bourne

14 August 2017

ATTACHMENTS

Attachment A Project Development Schematic and Programme



Prepared by MWH August 2016

Project Development Schematic and Programme