

**IN THE MATTER** of the Resource Management Act 1991

**AND**

an application pursuant to section 127 of the Act by the **ENGINEERING AND WORKS DEPARTMENT OF THE GISBORNE DISTRICT COUNCIL** to vary the conditions of nine consents relating to the existing off-shore wastewater pipeline and outfall structure and the associated discharge of treated wastewater in Gisborne, and

a notice of requirement pursuant to section 168A of the Act by the **ENGINEERING AND WORKS DEPARTMENT OF THE GISBORNE DISTRICT COUNCIL** for designation of the site at 31 Banks Street, Gisborne for a proposed wastewater treatment plant; and,

an application pursuant to section 88 of the Act by the **ENGINEERING AND WORKS DEPARTMENT OF THE GISBORNE DISTRICT COUNCIL** for a resource consent to discharge air contaminants from the proposed wastewater treatment plant.

**DECISION REPORT  
BY THE HEARING COMMISSIONERS**

**1. DECISION SUMMARY**

This decision report leads to a decision to grant consents and confirm the requirement, all subject to a comprehensive suite of conditions. The decision also includes a waiver of the requirement for an outline plan of the works for the first stage of the wastewater treatment plant.

**2. APPOINTMENT**

Gisborne District Council (“the Council”), in its role as the consent authority, appointed five persons as Hearings Commissioners (“Commissioners”) in accordance with section 34A of the Resource Management Act 1991 (“the RMA”) to consider and to make the necessary decisions upon:

- the application for a variation of conditions of the existing 2007 consents (“the variation”);
- the requirement for designation (the requirement”) of the Banks St site for the proposed wastewater treatment plant (“the WWTP”); and

- the resource consent application for an air discharge (“the air discharge application”) from the WWTP

that have been made to it under the RMA by the Engineering and Works Department of the Gisborne District Council (referred to as “the requiring authority” or “the applicant” hereinafter). The variation to consent conditions for restricted coastal activities are determined to be discretionary activities and restricted coastal activities that require the approval of the Minister of Conservation (“the Minister”). The Minister’s delegated officer has in this case approved, under section 119A RMA, that the Council may exercise its powers under sections 127 to 132 (inclusive) RMA, relating to the change of restricted coastal activity conditions in regard to the proposed construction and operation of a wastewater treatment plant that was to be located at Aerodrome Road, Gisborne. The letter of 28 January 2009 from Peter Williamson, District Conservator, East Coast Hawke’s Bay Conservancy refers.

The Commissioners are Councillor Patricia Seymour and Messrs Wira Gardiner, Richard Heerdegen, Nigel Mark-Brown and Alan Watson (Chair). Mr Heerdegen was recommended by the Minister to be appointed as a Commissioner by the Council because he had been the Minister’s appointee at the earlier hearing. The appointments were made by the Council to ensure the various applications were considered independently and to also meet the requirements of the RMA for the consideration of restricted coastal activities.

### **3. BACKGROUND**

The discharge of wastewater to Poverty Bay has been a contentious issue for a considerable period of time. Some historic background to Gisborne’s wastewater disposal is recorded in the earlier decision dated 2 July 2007 (“the 2007 consents”) by the Commissioners who decided seven coastal permits, two air discharge permits and two notices of requirement associated with the wastewater treatment and disposal arrangements at that time. Two restricted coastal activity permits were recommended to the Minister and were subsequently approved.

Otherwise the background to the current applications and requirement is stated in the Council officer’s section 42A RMA report on the variation sought as follows:

*“The discharge of waste water into Poverty Bay has been contentious for some time. The existing outfall was commissioned in 1964, and other than installation of milliscreens in 1991 few other treatment steps have occurred.*

*Resource consent applications (in 1993 and 1999) for ongoing use of the outfall, have been fiercely and passionately contested by groups and individuals within the community.*

*In 2002 Gisborne District Council launched its Wastewater Strategy. This strategy outlined proposed upgrades to the existing system comprising primary sedimentation (by 2010) and the introduction of a high-rate activated sludge plant together with ultra-violet disinfection*

*(by 2016). In 2003 however the Environment Court was compelled to send a clear message to Council “that time is running out. It is now 12 years since the precepts binding consent authorities to requirements of, particularly, sensitivity to Maori issues, were legislated ....”*

*The resource consents to discharge into Poverty Bay were due to expire on the 31<sup>st</sup> December 2005. The Wastewater strategy with the addition of a Boulder Bed, designed to provide some form of land based treatment was resubmitted as consent applications in September 2005. The application again met with strong opposition from submitters regarding the addition of the Boulder Beds as being a functionless, token gesture.*

*The stalemate situation at this time forced adjournment of Council Hearing and it provided the impetus to finding an inclusive process for considering options. The adjournment was proposed to be for 6 months up to 2<sup>nd</sup> October 2006. This adjournment process involved forming the Wastewater Adjournment Review Group (WARG). This group was charged with the task of investigating the Biological Trickle Filter (BTF) as a means of resolving the issues and satisfying community and Tangata Whenua in regard to human waste being discharged into Poverty Bay via the Gisborne outfall. The adjournment was further extended at the request of all WARG participants to allow further progress to be made and the resulting suite of consent applications provided for the development at Aerodrome Road that included staged development of Biological Trickle Filters and clarifiers.*

*This application under s127 of the Resource Management Act 1991 (RMA) is to make amendment to a number of the general conditions relating to the suite of consents associated with the Aerodrome Road proposed development and to amend conditions that are specific to CP205022 relating to the discharge of material into the Coastal Marine Area. These consents were issued for 35 years in September 2007.*

*The variations applied for under this application relate to the following key changes to the location and treatment methods being proposed:*

- ▶ *A single BTF plant (loaded at a higher rate of BOD/m<sup>3</sup> of media/day) is initially proposed instead of two BTF plants (loaded at 0.4 kg of BOD/m<sup>3</sup> /day).*
- ▶ *The proposed formation of a Technical Advisory Group that will (among other roles) oversee the initiation of the BTF Plant Monitoring and Investigation Study.*
- ▶ *The proposal for a BTF Plant Monitoring and Investigation Study that will determine the need (or otherwise) for further treatment processes to be scheduled.*
- ▶ *The proposed location for the treatment Plant has changed to 31 Banks Street, a site within the Gisborne City Industrial Subdivision that is closer to the existing outfall pipeline.”*

#### **4. THE PROPOSAL**

The overall wastewater treatment scheme proposed has been changed as a consequence of further investigation by the applicant. The implementation of the revised scheme requires the

variation of the existing conditions of the 2007 consents to provide for the of use one Biological Trickling Filter (“BTF”) instead of two, installation of disinfection as planned and to defer the planned secondary clarification and disinfection processes and to locate the WWTP at 31 Banks St, closer to Stanley Road than the airport site at which it is currently approved.

## 5. SUBMISSIONS

Ten submissions were received to the notification of the requirement, the air discharge application and the variation (collectively referred to as “the applications” in this decision report). The submissions have all been considered in the context of each application, and were heard in that manner, although we acknowledge that each submission was not always directed to all three applications. For example the submission from the Department of Conservation only relates to the variation.

Supporting submissions were received from:

- **Eastland Infrastructure Group**
- **Medical Officer of Health**
- **The Wastewater Options Review Group (“WORG”)<sup>1</sup>**
- **Department of Conservation.**

Submissions supporting in part and opposing in part were from **Murray Palmer/the Gisborne Environment Centre and from Gordon Jackman/Catherine Delahunty**. Mr Palmer supports the BTF arrangement but opposes the reduced scope of the treatment now proposed and a 35 year term of consent. Mr Jackman supports the proposals but seeks a change to the condition proposed by the applicant that requires that in the event of a disagreement between the Wastewater Technical Advisory Group (“WTAG”) and the applicant on the adequacy of transformation at the WWTP that the default loading of 0.4kg of BOD/m<sup>3</sup> of media/day shall be reinstated. He preferred any disagreement to be considered as a variation to the consent and determined by independent commissioners.

**Te Runanga O Turanganui A Kiwa** submitted in conditional support. That was on the basis that the WWTP will provide for the essential first step towards the timely cessation of the discharge of human sewage and other wastewaters to the coastal marine area. We record that all submissions in support or support in part were on the basis that the applicant continues to advance the proposed improvements to the treatment of Gisborne’s wastewater.

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<sup>1</sup> The Wastewater Adjourment Review Group (WARG) was formed in 2006 as part of the consideration of the 2007 consents to be a group of interested parties charged with exploring the biological trickling filter as an alternative means of wastewater treatment to an activated sludge plant, and importantly as a treatment method that may satisfy concerns of tangata whenua. The Wastewater Options Review Group (WORG) was formed in 2008 from members of the WARG when it became apparent that the cost of the approved wastewater treatment scheme was not affordable and other options needed to be investigated. The role of the WORG was different to the WARG in its consideration of options.

Opposing submissions were received from:

- ▶ **David Porter**
- ▶ **Perak Hoana Nikora**
- ▶ **Tutekohi Nikora and Elizabeth Nikora; Phil Ripia and Ohomauri Ripia.**

The concerns in opposition from Mr Porter related to the overall costs involved. The other parties' concerns included:

- ▶ Odour from the WWTP;
- ▶ Seepage into adjacent waterways from the site of the WWTP;
- ▶ Property values falling as a result of the proximity of the WWTP;
- ▶ Lack of consultation regarding the WWTP;
- ▶ Close proximity of the WWTP to food processing activities;
- ▶ Close proximity of the WWTP to local schools, Te Kuri a Tuatai Marae, Waikanae Stream and beaches with the risk of tsunami;
- ▶ The wastewater treatment plan philosophy is based on a "silo model" instead of integration; and
- ▶ The designation of the site for the WWTP contravenes sections 5 and 6 of the RMA.

## **6. THE HEARING**

The hearing was held at the Council Chambers in Gisborne on 19 and 20 May 2009. Appearances were from:

**Applicant:** Andrew Green, legal counsel  
Meng Foon, Mayor of Gisborne  
Peter Higgs, Manager Engineering and Works  
Garry McDonald, consultant wastewater engineer  
Roddy Copeland, consultant engineer  
Charles Kirkby, consultant air quality specialist  
James Low, consultant planner  
Graham McBride, aquatic scientist, tabled affidavit evidence

**Submitters:** Barney Tupara, legal counsel for Perak Nikora, Tutekohi and Elizabeth Nikora, Phil and Ohomauri Ripia  
Perak Nikora  
Peter Kite, independent facilitator to the WARG and the WORG  
Ronald Nepe, Chief Executive Officer, Te Runanga o Turanganui a Kiwa  
Gordon Jackman  
Bruce Duncan, Medical Officer of Health

Murray Palmer, for Tairāwhiti Earth Centre (Gisborne Environmental Centre Inc) and self

**Council Officers:** Dennis Crone, Senior Water Conservator  
Daniel Kingsford, Team Leader: Development Control  
Louise Bennett, Senior Environmental Health Officer  
Hans van Kregten, Manager: Environment and Planning.

## **7. THE RELEVANT STATUTORY PROVISIONS THAT WERE CONSIDERED**

The applications were considered as discretionary, controlled and restricted coastal activities and in terms of sections 104, 104A, 104B, 105, 107, 127 and Part 2 of the RMA. The notice of requirement was considered in terms of section 168A and Part 2 of the RMA.

## **8. OTHER RELEVANT PROVISIONS THAT WERE CONSIDERED**

The provisions of the following documents were considered in reaching this decision:

- New Zealand Coastal Policy Statements
- Gisborne Regional Policy Statement
- Gisborne Proposed Regional Coastal Environment Plan
- Gisborne Transitional Regional Coastal Plan
- Gisborne Regional Air Quality Management Plan
- Gisborne Combined Regional Land and District Plan
- Local Government Act 2002
- Health Act 1956
- Gisborne District Council Long Term Council Community Plan.

## **9. THE PRINCIPAL ISSUES THAT WERE IN CONTENTION**

The principal issues that were in contention were:

- Whether the actual and potential effects on the environment from the proposals included in the applications and the requirement are acceptable and whether, in relation to the adverse effects of the proposed activities on the environment, these can be avoided, remedied or mitigated to an acceptable degree.
- Whether the proposed activities are acceptable to tangata whenua, both as applied for and on the basis of on-going work regarding alternatives.
- Whether the proposed activities are acceptable to the range of persons and groups with an interest in the environment and an interest in the earlier proceedings and in the proposal.
- Whether the proposed activities are in accordance with the provisions of the New Zealand Coastal Policy Statement, the relevant regional planning documents and the

relevant district planning documents (noting the Council is a unitary authority with both regional and district functions under the RMA).

- Whether the proposed activities are consistent with relevant provisions of the RMA including sections 104, 104A, 104B, 105, 107, 127 and 168A.
- Whether the proposed activities are consistent with the sustainable management purpose of the RMA and its principles as included at Part 2 of it.

## **10. SUMMARY OF THE EVIDENCE HEARD**

A detailed account of evidence presented at the hearing is not provided because the important parts of that evidence are highlighted in the discussion on “Main Findings” below.

### **10.1 The Applicant**

The case for the applicant was co-ordinated by Mr Green who presented legal submissions and called witnesses who provided technical engineering and planning evidence in support of the applications. The Mayor described background to the applications and the critical nature of them to the community.

### **10.2 The Submitters**

The submitters presented evidence largely speaking to their earlier written submissions. Mr Tupara presented legal submissions opposing the applications and the requirement for reasons including proximity of the WWTP to his clients’ properties, to the Waikanae Stream and to the Te Kuri a Tuatai Marae. He called Perak Nikora as a witness who described the wastewater treatment scheme at Levin which she believed needed to be assessed for its applicability to Gisborne. Mr Tupara had particular concerns about what he saw as exclusion of Ngati Oneone from the workings of the WARG and the WORG.

Other submitters spoke largely in support or conditional support of the proposals. The Commissioners wish to record and acknowledge the strong commitment and value added to the process of the consideration of the wastewater treatment and disposal arrangements by some of these persons over a number of years, including their participation at the hearings. In that respect particular mention is made of Ronald Nepe and John Ruru, Gordon Jackman, Bruce Duncan and Murray Palmer and also Peter Kite in his role as facilitator with the WARG and the WORG.

### **10.3 The Council’s Officers**

Three section 42A RMA reports by the Council officers had been pre-circulated before the hearing. The officers all recommended approvals be granted with conditions. The officers had the opportunity before the applicant’s right of reply to highlight any points in their reports that were of particular relevance and/or to provide comments to the Commissioners regarding anything that had been presented during the hearing by the applicant and/or submitters.

### **10.4 Right of Reply**

Mr Green called some brief rebuttal evidence before his reply which addressed a number of points made by submitters. He stated the course chosen by the Council provided for appropriate levels of wastewater treatment that were affordable and acceptable environmentally and discussed details of the proposed conditions.

## **11. OUR MAIN FINDINGS**

This decision report now proceeds with our analysis of the applications under relevant headings. The subsequent section, “The Reasons for the Decision”, is then a summation of these findings.

The main findings of fact determined by the Commissioners that have led to the approvals, and the reasons for that decision, are as follows. They have been reached after considering the applications and the requirement; the submissions lodged following notification; the evidence and legal submissions at the hearing; the reports prepared by the reporting officers; all the relevant statutory and planning provisions; the principal issues that were in contention; and from visiting the sites involved in the applications and the requirement. The Commissioners find as follows:

## **12. CONSULTATION**

Some submitters questioned the level of consultation that had been carried out by the applicant in relation to the current proposals. We observe, from the evidence, that the issue of managing wastewater in Gisborne has been in the public arena for many years. Consultation has extended over a long period of time, particularly in respect of the existing coastal permits. The option of the Banks Street site for a WWTP was discussed at a number of Council meetings in 2008 and then forwarded as an option to the WORG in September 2008. In October of 2008 the Council sought public opinion on the preferred site. This included circulation of brochures and feedback forms plus a display stand at the Gisborne Agricultural and Pastoral Show. In addition an independent telephone survey was carried out. The feedback from both exercises showed that Banks Street was the preferred site. Landowners and lessees adjacent to the Banks Street site were also contacted during October 2008 and that generally resulted in positive feedback about the wastewater project.

We find the consultation for the WWTP to be satisfactory, along with the requirement for the WWTP site that needs to be accompanied by the air discharge application for the WWTP. This consultation has been part of the on-going consultation regarding the overall wastewater treatment scheme and the associated work of the WARG and the WORG, set up to deal with various matters and to ensure a wide range of community interests are able to input to all the details of it. The consultation associated with the wastewater treatment proposals for Gisborne over a long period has included conferring with tangata whenua groups, key interest

groups, industry and government departments. Details of the consultation are included in the section 42A reports by the Council officers.

We find consultation carried out by the applicant for the current applications and over a long period of time to be satisfactory.

### **13. OPPOSING SUBMITTERS**

As stated above there were four submissions opposing applications. Mr Porter had concerns for the overall costs involved with the requirement and the air discharge application, from his submission which was directed to those two applications, but his concerns were clearly directed also to the overall wastewater treatment scheme. One of the principal reasons for the changes now sought to the wastewater scheme is to address the costs of what was earlier approved and to move towards something that may be more affordable. We find that is a matter for the applicant to decide upon but that the actions of the applicant are directed towards meeting some of the concern expressed by Mr Porter.

Mr Tupara addressed concerns in relation to the Waikanae Stream on behalf of the submitters he represented. Concerns included the proximity of the WWTP to the waterway for physical and spiritual reasons, it being in proximity to the Te Kuri a Tuatai Marae and his clients' houses. The concerns in relation to odour are dealt with below in the discussion of "Effects". We found his clients' houses and the Marae to be well removed from the site and unlikely to be affected by odour from the WWTP. The highly controlled activity upon the site will ensure that runoff is controlled to a greater extent than at present. Potential seepage or other discharges of wastewater from sewage treatment activities on the site will be prevented by careful design and management of the site. This is to be enforced through specific consent conditions. There is no evidence supporting a drop in property values and indeed it could be argued in the reverse, that values could increase with the improved wastewater treatment arrangements for the City. All reasonable measures have been adopted to take account of any threat of tsunami, as far as is practicable.

The WWTP is an integral part of addressing longstanding concerns by tangata whenua and others for the discharge of untreated wastewater into the coastal marine area and one that has been part of the consultation and on-going work of the WARG and the WORG on behalf of the community. Mr Tupara's concerns in relation to those groups is addressed elsewhere in this report where we specifically provide for the involvement of Ngati Oneone in the on-going consultative process.<sup>2</sup> In terms of the proposed wastewater treatment process, and the evidence from Ms Nikora, we acknowledge her presentation but clearly the overall process incorporating the BTFs and the WWTP are part of long and on-going considerations,

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<sup>2</sup> See the discussion under the header "The Wastewater Technical Advisory Group".

involving both technical and non-technical input, in moving towards a more sustainable wastewater treatment arrangement for Gisborne. We have dealt with consultation above.

## **14. THE REQUIREMENT FOR THE WASTEWATER TREATMENT PLANT AT 31 BANKS ST**

### **14.1 What is it for?**

The requirement seeks to designate the site for wastewater treatment purposes to provide for the development of the WWTP. The details are included in the application, the section 42A RMA report by Mr Kingsford and the evidence of the applicant. The designation for wastewater treatment purposes is to provide for the construction, operation and maintenance of the WWTP. Section 168A RMA requires us, when considering the requirement, to have particular regard to specified matters which we do in the following.

### **14.2 The proposed WWTP**

The proposed wastewater treatment system includes biological treatment using BTFs. The construction and operation of the WWTP includes the following:

- ▶ The construction and operation of the BTF and associated plant;
- ▶ Workshop and storage facilities;
- ▶ The removal of grit and screening of solids from domestic and industrial wastewater streams and their removal from the site;
- ▶ Conveyance and pumping of wastewater;
- ▶ The removal and processing of solids arising from biological processes in the BTF plant;
- ▶ The operation of a disinfection plant;
- ▶ Any ancillary operations/treatment processes necessary for treatment of Gisborne's wastewater, including alternative uses of treated liquid and solids streams; and
- ▶ The pumping of effluent to the Gisborne Ocean Outfall.

The applicant advised that in order to manage capital costs, the WWTP will initially only comprise one BTF, followed by disinfection within two years. Future work, which will be constructed as required by reviews of the performance of the WWTP and the need to improve discharge quality, may comprise up to one additional BTF, one or two secondary clarifiers or other means of solids removal and (if solids removal is included) associated bio-solids storage and treatment.

The BTF tanks(s) will be approximately 10m high and 30m in diameter. Initially, only one tank is proposed. The height of the tanks will be extended another 5m by the odour covers

giving an overall height of 15m. Other plant on site will include an operations building which is unlikely to exceed 12m in height, and a single storey storage facility.

### **14.3 Relevant plan provisions (section 168A(3)(a) RMA)**

The applicant's planner and the Council's reporting planner both provided details of the relevant policy and plan documents. The following are relevant to the requirement:

- Part Operative Gisborne District Combined Regional Land and District Plan (CRLDP)
- Gisborne District Council Regional Policy Statement (RPS).

In the CRLDP the WWTP is a network utility and is specifically identified within the Utilities chapter. The utilities provisions seek to facilitate the efficient use and development of utility networks as an essential public service whilst acknowledging that network utilities can have a significant impact on the environment and that adverse effects are to be avoided, as far as practicable, remedied or mitigated. There are also relevant provisions relating to noise that seek to maintain noise at limits that reflect the amenity values and character of the locality.

We find these provisions are met by the proposal, from the discussion of "Effects" below, and because the provision of a network utility service for wastewater is critical to the wellbeing of the community. It is also part of a wastewater strategy that will improve the quality of wastewater that is discharged through the ocean outfall and, in this location, it is in proximity to the outfall station at Stanley Road and avoids any residential areas.

The site is within the General Industrial zone. Whilst the zone rules do not apply to development within a designation they can be used as a guide to assess the appropriateness of such development. In this case the WWTP is similar in nature to a number of permitted activities in the zone. The WWTP meets the various objectives and policies and the development rules of the zone. It is in many respects an industrial type activity that is compatible with the neighbouring industrial activities. The site adjoins the Waikanae Stream, and the reserve along it. The proposal will improve the current state of the site and will improve the quality of stormwater discharge from it that may reach the stream. The rule requiring a landscaped yard of 4.5 metres where the site adjoins the reserve is included as a condition on the decision for the designation.

The RPS provides an overview of the resource management issues in the Gisborne region and sets out policies and methods to achieve integrated management of the region's natural and physical resources under headers of Land, Water and Air Quality Management. The WWTP

is in accord with all these policies and particularly that which is to improve the standard of treatment of Gisborne City sewage.

#### **14.4 Alternatives (section 168A(3)(b) RMA)**

The RMA requires that adequate consideration be given to alternatives, in circumstances when the requiring authority does not own all the land required for a particular work, or there will be significant adverse effects on the environment. In this case the applicant does own the land so this provision does not need to be met. It is also our finding that there will not be significant adverse effects, as below. So no further consideration of this provision is strictly necessary. However it was addressed in the requirement and in evidence by the applicant and we also cover it now.

It also has to be stated that in considering alternatives this RMA provision does not require the best option to be selected, but rather that the requiring authority is shown to have not acted in an arbitrary manner.

The details with the requirement show there has been significant investigation and consideration of alternative sites. Details are also included in the reports with the resource consent application for the earlier site adjacent to the airport. The constraints on that site in respect of airport safety issues led to the designation of an alternative site within the airport boundaries accessed off Aerodrome Road. However as a result of concerns for the affordability of the proposed treatment plant at the airport, the applicant had to investigate another scheme which would be more affordable. This resulted in consideration of ten other possible sites and closer consideration of three of those alternative sites being the approved airport site, the existing Stanley Road outfall pumping station site and the current Banks Street site. Banks Street was the option preferred by the applicant and was also supported through the public commentary exercises the applicant carried out to explain the proposal to the public and receive some responses from it.

We are satisfied that the applicant has given adequate consideration, as much as that is necessary given ownership of the site, to alternatives both in terms of the selection of the Banks St site and in terms of the wastewater treatment process. From the investigations that have been carried out by the applicant, along with the input of the WARG and the WORG, it is clear that implementation of an appropriate wastewater treatment process is sought. There was no credible evidence produced that indicated another process would be more appropriate.

#### **14.5 Reasonably necessary for the work and designation (section 168A(3)(c) RMA)**

The test of “reasonably necessary” is in relation to considering this in the context of “achieving the objectives of the requiring authority for which the designation is sought”.

The applicant states that the need for a new WWTP is primarily due to statutory requirements, to various Council documents and to community aspirations that identify the treatment of wastewater as a high priority. These include:

- ▶ The Gisborne City Wastewater Strategy;
- ▶ The Proposed Coastal Plan (Water Quality Standards);
- ▶ Community expectations;
- ▶ Tangata whenua expectations; and
- ▶ The Long Term Council Community Plan.

The Council has for a long time discharged milli-screened wastewater into the coastal marine area and there have been long standing concerns that the discharge quality is not to an acceptable standard. In recognition of all these matters the 2007 consents require that the first stages of the BTF treatment are operational by 31 December 2010 and disinfection implemented in 2012. The designation now sought will provide a degree of certainty for the applicant and the public regarding the progress being made in the planned improvements to the wastewater treatment arrangements for Gisborne. The effect of the designation will allow the applicant to carry out works in accordance with the terms of the designation.

We find that the work and designation are necessary, and certainly reasonably necessary, as part of the applicant's planned improvements to the overall wastewater treatment process for Gisborne.

#### **14.6 Other matters (section 168A(3)(d) RMA)**

There are no other relevant matters to be taken into account.

#### **14.7 Effects (section 168A RMA)**

The potential on-going adverse effects associated with the proposal are visual, natural values in relation to the stream, odour, traffic, noise and cultural heritage. There are also potential adverse effects during construction such as noise, vibration, dust and traffic.

##### **14.7.1 Visual**

The requirement includes a Landscape and Visual Assessment that describes the predominant character of the surrounding area as comprising large buildings, storage for industrial activities, manoeuvring yards and car parks. The visual effects of the physical components of the WWTP are considered in that Assessment in which it is stated that the lack of adverse impacts indicates the suitability of the site. We agree.

##### **14.7.2 Natural Heritage Values**

The natural heritage values of the neighbourhood derive from the adjacent Waikanae Stream which is a small tidal stream. Despite its industrial setting and apparent neglect the stream appears to provide habitat for a range of native wading birds including pukeko, pied stilt and a variety of ducks. The WWTP will improve the existing state of the site and include more controlled development reducing the effects of stormwater discharges from the site on the adjacent stream.

#### 14.7.3 Odour

This is a potential effect that is associated with the treatment of wastewater. The discharge of odour associated with the WWTP also requires a separate consent under the Regional Air Plan and in that respect the effects of odour from the treatment plant were specifically assessed in the section 42A RMA report by Ms Bennett. However it is also an effect that needs to be considered for the requirement.

The applicant relies on covering and/or enclosing the significant potential sources of odour and air extraction to biofilters to control any discharge of odour from the site. Biofilters are a well established technology in this respect. Mr Kirkby's evidence was that use of biofilters should avoid discharges of odour under normal operations that may adversely affect adjoining properties. The immediately adjoining land uses to the WWTP site are industrial which make them less vulnerable to odour than residential areas. The nearest existing residential areas are approximately 250m to the north and north east and approximately 500m to the south east. Mr Kirkby advised that the area currently zoned industrial to the east of Stanley Street between Awapuni Road and the Waikanae Creek may in the future be rezoned as residential. The nearest parts of this area are located approximately 100m to the east of the Banks Street site. The effects on this area had been considered in the odour assessment carried out by Mr Kirkby. His expert evidence was that those residential areas would not be affected, that the potential for adverse effects of odour on Te Kuri a Tuatai Marae and the Cobham School is negligible and that neighbouring business activities are likely to notice only occasional minor concentrations of odour from the WWTP. Any such odour will be very different (in character) from that normally associated with wastewater, being the residual odour discharged from biofilters, similar to that of freshly turned soil and is not generally regarded as offensive or unpleasant. Clarifiers may generate a slight 'musty' odour, but this is likely to only be noticeable during calm weather conditions close to the WWTP.

Ms Bennett reported that commissioning of the plant may create some odour however, once the plant is operational it is considered that the mitigation methods proposed will be adequate to control any odour within the site boundary and any effects beyond this boundary will be minimal. Banks Street is an industrial area. Residential properties are well removed and it can be concluded that there will be no offensive or objectionable odour from the site at those properties. Regular monitoring of the facilities are proposed, both self monitoring and by way of the conditions included on the air discharge consent to ensure compliance with consent conditions is achieved. As part of the conditions an Operation and Maintenance Plan and an Odour Management Plan will be produced which incorporate plans for monitoring and recording fugitive events and contingency procedures in the event of odour complaints and also control discharge of offensive or objectionable odour beyond the boundary are included.

We find all the details relating to control of odour to be satisfactory in ensuring no adverse effects arise from the WWTP, provided odour control systems are appropriately designed and operated. The conditions on the designation and the consent to the air discharge application address the need for efficient operation of the WWTP and action to be initiated should any unforeseen discharge occur.

#### 14.7.4 Traffic

Access to the site will be via Banks Street. Vehicle movements will be minimal in the context of the industrial area and will not affect the capacity of local or surrounding roads. Adequate parking spaces will be provided on site which will be drained and sealed.

#### 14.7.5 Noise

The effects of noise were addressed in Acoustic Assessment provided with the requirement. The WWTP would operate continuously but the Assessment predicts that the operation of the WWTP would readily comply with the district plan noise limits at both the adjacent industrial properties and the residential area to the north east. A condition addresses compliance with the construction noise standards.

#### 14.7.6 Soil, surface and groundwater - potential soil or groundwater environmental risks associated with operation of the WWTP and mitigation measures

During normal running of the WWTP the operational activities will be largely contained inside buildings or structures and will therefore have little impact on the outside environment. The main treatment processes include: pumping, screening and grit removal, BTF operation, and by 2012, disinfection, expected to be based on a ultraviolet treatment process. Septage (sludge pumped out from septic tanks) is to be disposed at the WWTP and future upgrades may require on site storage of sludge on site. The main operational activities on the site that have the potential to result in off site effects are spillage and stormwater runoff.

#### 14.7.7 Stormwater runoff / Spillage

The proposed philosophy for the management of stormwater on the site is to follow best practice guidelines and to provide treatment of stormwater runoff where appropriate. Low impact design principles will be applied to the site including the reduction of runoff rates and reuse of rainwater where practicable. Rainwater from the roof of the Pre-treatment and Control Buildings is proposed to be directed to the screen washwater tank and used for cleaning of the screens. In low risk spillage areas reduced runoff rates may also be achieved through the use of porous paving, allowing runoff to infiltrate into the ground. Stormwater

runoff from the site will be collected in swales and directed to the north end of the site where raingardens are proposed as a means for treating the stormwater prior to discharge to Waikanae Stream. These raingardens will be integrated with the proposed landscaping planting for the northern boundary along the stream margin.

To manage the risk of spills on site that might cause environmental effects an Environmental Management Plan will be developed for the site prior to the WWTP being commissioned. The Environmental Plan is a condition of the designation. In general the WWTP will have few high risk materials on site that could result in accidents or spills. Diesel will be stored on site for the operation of the emergency generator, and that storage will include the appropriate statutory bunding requirements. There will be a risk of spillages from septage tankers during tanker discharge when dropping off their load. The drainage from the area around the septage connection point, along with other high risk spill areas will be directed to the Influent Pump Station through a below ground drainage system to avoid potential discharges to the stormwater system. If sludge storage facilities are installed in a future upgrade appropriate spill collection facilities and procedures will be required to be installed and implemented

Through the design of structures containing wastewater as ‘water retaining structures’ under the structural design codes, measures to capture any spillages and prevent them from being released into the stormwater system, and the lack of any connections to the Waikanae Stream there is not expected to be any leakage or leaching of wastewater from the site into the Waikanae Stream.

#### 14.7.8 Operation Under Failure or Emergency Conditions

Failures that could affect the operation of the plant can fall in to two main categories. The first is specific equipment or local failures such as the breakdown of a pump. The second is a site wide or regional issue such as a network power failure or natural hazard.

The approach to the design for redundancy of key treatment processes that have major mechanical equipment on the site is to provide an installed standby unit such that following any single unit failure, full capacity of the process can be maintained. In this case if the duty unit fails a standby unit will automatically start and continue the plant operation with no

significant effect on the wider operation of the WWTP. This approach has been used for all of the key pump stations together with the industrial and domestic inlet screens.

The BTF has very few mechanical parts by its design and therefore the likelihood of mechanical failures can be considered to be low. If a larger failure were to occur with one of the major treatment units such as the BTF, the design approach has been to provide a series of internal emergency by-pass loops such that those treatment processes that are still working can continue to operate. This would allow, for example in the event of a failure of the BTF, for the WWTP to continue to provide screening, grit removal and partial disinfection until the problem was fixed.

If one of the pre-treatment processes were to fail the final emergency by-pass loop will direct the incoming wastewater through an emergency overflow screen and into the outfall pump station. This will allow continued discharge of wastewater through the outfall and limit any release of wastewater in the city network. There are no installed overflows or emergency bypass routes from the WWTP into the Waikanae Creek. All discharges will be through the existing outfall. In the event of extreme storm events or a prolonged failure to the outfall pump station it is expected that there will continue to be overflow events within the wastewater network as currently would occur. The location of the WWTP at the Banks Street site does not significantly change that situation as compared to the previously consented Airport WWTP.

To mitigate the risk of a site or area wide network power failure the WWTP will be provided with an installed emergency backup generator that is capable of running key treatment processes, until such time as the power to the site can be restored. It is proposed that the generator is sized to be able to run the main pump stations, screening and grit removal and the single BTF processes. This generator will start up automatically in the event of a power failure and the WWTP processes will be restarted sequentially within a few minutes.

The Environmental Management plan will include emergency management procedures developed for the WWTP to cover operational responses to the types of failure scenarios described above. Critical items of plant within the WWTP will be protected from flooding by ensuring they are placed at a level above extreme flood levels or sufficiently bunded or otherwise protected against flooding.

#### 14.7.9 Cultural Heritage

The site does not contain any known archaeological sites or waahi tapu areas although the adjacent stream is shown as a waahi tapu area. In terms of the stream the WWTP is a contained process, apart from discharges to air, and will not have any impact on the adjacent stream.

#### 17.7.10 Overall

We find that the potential adverse effects of the proposal have been considered and addressed in the requirement and are otherwise covered in conditions we apply to the resultant designation.

#### 14.7.11 Beneficial Effects

There are also notable beneficial effects because the WWTP will substantially improve the wastewater discharge, provide a resource for future generations and function as part of the overall wastewater treatment scheme that is acting to address the wide level community concern with the discharge of milliscreened wastewater into Poverty Bay.

### **14.8 Part 2 RMA (section 168A RMA)**

We find the requirement to be entirely consistent with the sustainable management purpose of the RMA. The WWTP contributes to the sustainable management of this community and will also provide a physical resource for future generations. Furthermore, the improved wastewater quality from the WWTP will improve the community's wellbeing.

The plant will not impact on any of the matters of national importance (section 6 RMA). The measures included as part of the proposal, and the overall wastewater treatment scheme, will work towards the preservation of the natural character of the coastal environment and has particular regard to the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga. Similarly regard is given to the relevant section 7 RMA matters including kaitiakitanga, the efficient use and development of natural and physical resources and the maintenance and enhancement of amenity values and of the quality of the environment. Section 8 RMA, relating to the Treaty of Waitangi, is addressed through the extensive consultation with tangata whenua regarding the development of the wastewater treatment scheme and their involvement in it.

### **14.9 Conclusion on the Requirement**

We confirm the requirement. This is because it is in accord with the statutory provisions we need to apply to the consideration of it, and based on the evidence we received. It is confirmed subject to conditions which ensure that specific measures included in the WWTP to be constructed and operated on the site are carried out in order to suitably avoid or mitigate any potential adverse effects that may arise from it, and recognising that the designation will provide for other related works on the site.

#### **14.10 Request for waiver of requirement for an outline plan (section 176A RMA)**

The applicant sought a waiver of the requirement for an outline plan of works to be submitted to the Council. An outline plan allows the Council to request changes before construction commences. Mr Green advised that the applicant intends to proceed quickly with construction of the first stage of the WWTP and referred to the detailed plans that had been provided in seeking a waiver for these works only. As he stated a waiver for the second stage is not appropriate because the works involved in that will respond to the monitoring of the performance of the first stage works and are not therefore completely determined. The reporting officers did not oppose such a waiver.

We grant the request for a waiver of the requirement for an outline plan, for the first stage of the works only because, in accordance with section 176A RMA, the details of the work are sufficiently incorporated into the details of the designation and dealt with through the conditions imposed upon it as part of this decision.

### **15. THE AIR DISCHARGE APPLICATION**

#### **15.1 What is it for?**

The application seeks consent to discharge contaminants to air from the construction and operation of the WWTP. The details are included in the application, the section 42A RMA report by Ms Bennett and the evidence of the applicant. The proposal is a discretionary activity in terms of the Regional Air Quality Plan for the Gisborne Region. We are to have regard to the matters in sections 104, 105 and 104B RMA when considering the application which we do in the following.

#### **15.2 The process**

This is described above in the consideration of the requirement. It is suffice to say, recognising that odour is a potential concern, that to minimise the discharge of odour from the site the inlet works and pump stations, milliscreens, grit removal and BTF and outfall pumping station will be fully enclosed with extraction to the biofilter. The later secondary clarifiers, if required, will not be covered but the disinfection system will be covered to avoid emission of ultraviolet light but not have any odour extraction.

#### **15.3 Actual and potential effects on the environment**

The principal potential effect is odour from the WWTP. This is dealt with above in the discussion on the requirement. We record here that this potential effect was comprehensively addressed to our satisfaction.

The other potential effect in relation to the air discharge considerations is dust during earthworks and building construction. No adverse effects are anticipated but a condition of consent provides for dust control measures to be implemented if needed.

We also note the beneficial effects from allowing this discharge as part of the WWTP by addressing the wide level community concern with the discharge of milliscreened wastewater into Poverty Bay. As the overall wastewater treatment scheme will substantially improve the quality of wastewater discharge into the marine environment, the minor effects of odour, mitigated by widely used biofiltering, will not prejudice the operation of the plant or its impacts on neighbouring properties.

#### **15.4 Relevant policy statements and/or plans**

These were identified as the Regional Air Quality Management Plan (Air Plan) and the Regional Policy Statement (RPS). In terms of the Air Plan the air discharge is a discretionary activity because it is not specifically provided for in the rules of the Plan. The relevant provisions in the Air Plan seek that the discharge of odorous contaminants does not result in offensive or objectionable effects on amenity values and human health and wellbeing. The provisions recognise that it may not be possible to avoid all detectable odour, but focus on adverse effects from objectionable or offensive odour. The RPS addresses air quality management in the region and includes a number of related policies including the need to impose the Best Practicable Option for discharges.

These policy and plan provisions are met from the discussion of the effects of odour above.

#### **15.5 Part 2 RMA**

We find the air discharge consent sought to be entirely consistent with the sustainable management purpose of the RMA. It is part of the WWTP and the overall improved wastewater treatment for Gisborne, all of which will contribute to sustainable management of this community, improve the community's wellbeing and provide for future generations.

The air discharge is not considered to impact on any of the matters of national importance (section 6 RMA). The measures included to control the emission of odour have due regard to the section 7 RMA matters of the efficient use and development of natural and physical resources and the maintenance and enhancement of amenity values and of the quality of the environment. Section 8 RMA, relating to the Treaty of Waitangi, is addressed through the extensive consultation with tangata whenua regarding the development of the wastewater treatment scheme for Gisborne and their involvement in it.

#### **15.6 Conclusion on the air discharge application**

We grant consent to the application. This is because it is in accord with the statutory provisions we need to apply to the consideration of it, and based on the evidence we received. It is granted consent subject to conditions which ensure that specific measures are included in the proposed WWTP to be constructed and operated on the site in order to suitably avoid or mitigate any potential adverse odour effects that may arise from it.

## **16. THE APPLICATION FOR VARIATION OF CONSENT CONDITIONS**

### **16.1 What is it for?**

The overall proposal for the wastewater treatment upgrade has been described above in the introductory sections of this decision report. The variations now sought relate to the following key changes to the location and treatment methods being proposed:

- ▶ A single BTF plant (loaded at a higher rate of BOD/m<sup>3</sup> of media/day) is initially proposed instead of two BTF plants (loaded at 0.4 kg of BOD/m<sup>3</sup>/day).
- ▶ The proposed formation of a Wastewater Technical Advisory Group that will (among other roles) oversee the initiation of the BTF Plant Monitoring and Investigation Study.
- ▶ The proposal for a BTF Plant Monitoring and Investigation Study that will determine the need (or otherwise) for further treatment processes to be scheduled.
- ▶ The proposed location for the WWTP has changed to 31 Banks Street, a site within the Gisborne City Industrial Subdivision that is closer to the existing outfall pipeline.

This application relates to changes to the wastewater treatment and is not for any new consents. Section 127 RMA provides for the holder of a resource consent to apply to a consent authority for a change of a condition of consent. That provides for the current application that seeks to change conditions of the existing 2007 consents in order to take account of the changes to be made to the wastewater treatment scheme. Section 127 provides for the variation to be considered as a discretionary activity. It is important in this context to note that the existing 2007 consents form a permitted baseline for the purposes of assessing the effects on the environment arising from the variation. This is not then an opportunity to re-assess the adverse effects of the activity as a whole but just the components of it that are sought to be changed.

### **16.2 Proposed alternative wastewater treatment method**

The applicant has investigated ways and means to reduce the total final construction and operating costs of the wastewater scheme through re-scoping the treatment process, while continuing to meet the spirit and intent of the 35 year consents granted for disposal of treated wastewater from the new scheme.

This has included considering:

- (a) Investigating new sites for the WWTP;
- (b) Reducing the scale of major scheme components; and
- (c) Changing the staging of major scheme components.

The re-scoped options included the following requirements:

- (a) Ensuring that the enterococci concentration in the ultimate discharge to Poverty Bay is limited to 1000 cfu/100ml sample as per the current consent condition;
- (b) Ultimately achieving a suspended solids concentration and mass load limit in the discharge to Poverty Bay of 600 mg/l and 10,800 kg/day respectively as per the current consent condition;
- (d) The biotransformation of human waste material must be significant;
- (e) Ensuring that emergency bypass events are limited to less than 1% of the time;
- (f) Ensuring that the Gisborne wastewater scheme ultimately allows for alternative use/disposal of industrial and domestic wastewaters in the future.

### **16.3 Scheme Scope and Staging Changes Considered**

The existing 2007 consents stipulate various conditions for treatment including “end-of-pipe” discharge quality requirements and treatment process requirements to meet a number of treatment objectives wanted by the Gisborne community.

A range of new options was evaluated in a quadruple bottom line (QBL) framework, to achieve the following objectives:

- (a) Environmental (two levels):
  - (i) Reducing gross solids including grit and floatable material of obvious sewage origin from beaches and swimming waters (normally achieved by milliscreening and grit removal);
  - (ii) Reducing wastewater strength/organic carbon (measured as BOD), and meeting colour/clarity standards and ANZECC guidelines through trade waste and other controls or treatment.
- (b) Social – discharging wastewater with an acceptable quality to maintain public health (normally achieved through disinfection).
- (c) Cultural – providing a treatment process that meets cultural objectives (for example “biotransformation” using lowly-loaded BTFs) and eventually alternative use of domestic wastewater and its removal from the outfall.

- (d) Economic – whole of life costs that are affordable to the community, either through staging these costs and/or minimising capital and operating costs.

A “Route Mapping” approach was used to explore a range of new options, in which the treatment process is constructed in distinct “blocks” in a route from least cost treatment to full consent compliance. The treatment steps or “blocks” used were:

- (a) Minimum required treatment – to remove gross and floatable solids and grit;
- (b) BOD removal – to broadly achieve the environmental objectives of treatment;
- (c) Disinfection – to broadly achieve the social objectives of treatment; and
- (d) Full Consent Compliance – to achieve all the conditions of the original consent and satisfy cultural objectives.

Based on cost route analysis of the ability of the twelve options considered to achieve the greatest level of treatment at the least cost, four options were then short listed for further evaluation against the three other QBL criteria, that is, environmental, cultural and social and on a comparison of operating costs. Based on this evaluation, the preferred option is:

- (a) Implementing the Industrial Separation Scheme thus removing all the highest BOD loads from the waste stream to be treated in the BTF plant but also encouraging flow minimisation and on-site treatment to comply with new trade waste bylaws and individual trade waste consents;
- (b) Constructing new pretreatment facilities for the domestic waste stream (1.0mm milliscreening and grit removal) and separated industrial waste stream (1.0mm milliscreening), preferable within a single facility;
- (c) Constructing a single BTF unit to treat domestic wastewater at a design loading of 0.8 kg BOD/m<sup>3</sup>/day which would be compatible with the future addition of a second identical BTF to halve the loading to 0.4 kg BOD/m<sup>3</sup>/day;<sup>3</sup> and
- (d) Master planning for the full implementation of a WWTP compliant with the 2007 consents by ensuring a suitably designated site was available with sufficient land reserved for locating and constructing the anticipated physical works.

The Industrial Separation Scheme does not feature in the variation to the consent conditions being sought nor is it relevant to the designation requirement. It is, however, an integral part of the process coinciding with the commissioning of the BTF and will be implemented with the other physical works planned to be completed and commissioned before 31 December 2012.

The proposed treatment plant process items that will be installed are as listed below. It is intended that all of these, with the exception of the disinfection facility will be installed by December 2010. It is proposed to commission the disinfection facility by December 2012 after a suitable period of testing and monitoring of the new WWTP to ensure that pathogen concentrations in the BTF treated effluent, after the ultraviolet treatment stream, match the current consent.

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<sup>3</sup> We understood from the applicant that with the increased surface area of the media, exclusion of the Wainui area and other steps that the overall performance of the BTF will be nearer to 0.4 kg BOD/cu.m/day but that it will be performing sufficient biotransformation to not warrant the construction of a second BTF.

The proposed treatment process items are:

1. Domestic wastewater influent pump station
2. Industrial separation pump station
3. Pretreatment and control building housing
4. Milliscreening (domestic and industrial) and grit removal (domestic) processes with full ventilation system
5. Control room, switchroom, staff facilities, standby generator and transformers
6. Single biological trickling filter (BTF #1 including cover and ventilation system)
7. BTF feed pump station (2 pumps now and 3 pumps in future if needed)
8. Disinfection facility
9. Outfall pump station (for combined domestic BTF treated effluent and milliscreened industrial waste stream)
10. Trunk pipelines (two gravity interceptors, separated industrial rising main and outfall rising main)
11. Biofilters for odour treatment
12. Other utilities such as water, power, and telecoms
13. Site development and landscaping including site fencing, planting and stormwater management

The Master Plan for the treatment plant site includes other future, that is post 2012, possible unit treatment processes below, should they be required to meet the need for improved treatment performance or higher environmental standards.

The removal of biomass and suspended solids may still be required to maximise ultraviolet disinfection and reduce micro-organism concentrations. This requirement (or otherwise) will be determined following the results of the proposed BTF Plant Monitoring and Investigation study that will be reported on at the 3<sup>rd</sup> annual report after commissioning of the BTF plant.

Additional treatment process items that may be required, dependent on the results of the proposed BTF Plant Monitoring and Investigation study, to achieve removal of biomass and suspended solids are:

1. Second biological trickling filter (BTF #2)
2. Secondary clarifiers (solids removal)
3. Interstage lift pump station
4. Disc filters (for effluent polishing)
5. Sludge storage tank(s)
6. Sludge thickening and dewatering complex

In summary, investigations of a revised scope for the treatment plant which increased the BOD loading rate on the BTFs, produced the current preferred scheme of a new wastewater treatment plant, comprising full industrial separation, new pre-treatment facilities, new outfall pumping station, one BTF and disinfection, with a full masterplan of the site that shows the footprint of future enhancements should they be required after performance monitoring. This revised scheme has an expected out-turn cost of \$45M and is considered by Council to be affordable.

## **16.4 Summary of key wastewater quality parameters or treatment plant requirements and comment on variation to the existing consents compared with the consented plant and consented quality**

### **16.4.1 BOD Loading on BTFs**

It is proposed to initially use only one BTF and the BOD loading rate on the BTF will increase from the 0.4 kg BOD/m<sup>3</sup>/day that is currently consented, to a higher loading which is then to be monitored to assess the degree of biotransformation. We accept the evidence of Mr Macdonald that the degree of biotransformation, as measured by soluble and total BOD reduction across the treatment processes, will still be significant at the proposed higher BOD loading rate of up to 0.8 kg BOD/m<sup>3</sup>/day. We note that proposed consent Condition 4A (proposed by the applicant) will also provide for review of the degree of biotransformation and provision of an additional BTF in the future, if required to provide the necessary degree of biotransformation to meet tangata whenua aspirations and we consider this appropriate.

Mr Jackman had sought a change to the condition proposed by the applicant that provided that in the event of a disagreement between the WTAG and the applicant on the adequacy of transformation at the WWTP that the default loading of 0.4kg of BOD/m<sup>3</sup> of media/day should be reinstated, and he preferred any disagreement to be considered as a variation to the consent and determined by independent commissioners. We have considered that proposed change but find that in defaulting to the loading of 0.4kg of BOD/m<sup>3</sup>/day that the conditions are reverting to the 2007 consents and that is appropriate. That was found to be acceptable as part of the earlier consents and indeed provides a baseline for the consideration of this matter.

### **16.4.2 Total suspended solids (TSS)**

It is proposed that the total suspended solids at the outlet of the BTF will increase from 30 g/m<sup>3</sup> as currently consented to between 170 and 210 g/m<sup>3</sup>. Evidence from Mr MacDonald was that the proposed ultraviolet disinfection will be able to achieve reduction in pathogens despite the increase in the suspended solids above previous consent limit for TSS. We accept this evidence.

Mr MacDonald's evidence also stated that his company's analysis of the outfall discharge resulting from the single BTF plant effluent, combined with the on-site treated separated industrial waste streams, was that it would meet the current consent "end-of-pipe" suspended solids concentration limit of 600 mg/l and mass load limit of 10,800 kg/day. We accept this evidence, which is relevant for avoiding a conspicuous discharge plume.

We note however that there will be significant increases in total suspended solids loads discharged from the proposed single BTF for the proposed revised treatment system compared with the 2007 stage 2 consented plant. Mr Macdonald's evidence concludes that the reduction in the originally consented scope of the WWTP through the deferment of the solids separation processes will not compromise the environmental outcomes that were anticipated in the original consent.

We consider that the increase in suspended solids may have implications with respect to other contaminants, for example nutrients, metals and organics that may be attached to or associated with suspended solids particles but that based on the evidence provided these will not cause any currently noticeable or detectable adverse effects. We consider it is therefore necessary for there to be ongoing monitoring of the quality of discharged wastewater and review of the adequacy of the treatment to ensure that in the longer term the increased overall suspended solids load discharged through the BTF in the variation does not have an effect worse than that arising from discharge of wastewater as permitted by 2007 consents. There thus needs to be a mechanism to implement solids contact and clarification at the treatment plant should monitoring indicate that this is required to avoid adverse effects. This is achieved through Condition 4A (c) (iv) (e), (f) and (g) and Condition 26.

#### 16.4.3 Pathogens

We accept Mr Macdonald's evidence that the addition of a disinfection stage, which will be installed after a suitable period of testing and monitoring of the new WWTP, will result in pathogen concentrations in the BTF treated effluent stream matching the 2007 Stage 2 consent limits. We note the affidavit of Mr McBride and his comment that "*it would therefore be appropriate for the varied consent to also contain a condition requiring more extensive and up-to-date examination of the performance of the proposed disinfection, once operating. This will enable further enhancements to be considered and implemented if necessary*". Condition 4A (c) (iv) (e), and Condition 26 will achieve this.

#### 16.4.4 Heavy metals and organic compounds

The applicant's reporting in support of the application (section 127 RMA change of condition on discharge of wastewater to the coastal marine area, Beca, November 2008) without solids capture, metal load discharges are likely to be higher than for the 2007 stage 2 consented scheme but will be no higher than the current situation. There are no proposed changes to the 2007 consent limits for heavy metals. There is no evidence that heavy metals or organic compounds are causing adverse effects. We consider this will be satisfactorily addressed by Condition 26.

#### 16.4.5 Nutrients

The applicant's reporting in support of the application ("Section 127 Change of Condition on Discharge of Wastewater to the Coastal Marine Area by Beca, November 2008) without solids capture, nutrient loads discharged will be higher than for the 2007 stage 2 consented scheme but will be no higher than the current situation. There are no limits on nutrients in the current consent and no evidence that nutrients are currently causing an adverse effect. This will be satisfactorily addressed by Condition 26.

#### 16.4.6 Oil and grease

From the evidence provided, we note that industrial sources of oil and grease are to be addressed as per the conditions of 2007 consent. The domestic sources and treatment of oil and grease can be addressed by Condition 4A (c) (iv) (e), (f) and (g) and Condition 26.

#### 16.4.7 Discharge flowrate

There is no change sought to the flowrate and relevant conditions of the 2007 consents.

#### 16.4.8 Flow rates and Emergency bypass

There is no change sought to the flowrate and relevant conditions of the 2007 consents. The current proposal maintains the provision for 33,000 m<sup>3</sup> of flow and bypass provisions remain as the 2007 consent provided for.

#### 16.4.9 Industry Separation

In the 2007 consents and the currently proposed wastewater treatment system application it is proposed that seasonal meat processing and horticultural industry discharges will be separated by a separate industry pipeline and disposed of directly to the existing outfall pipeline after treatment at source. This is not changed by the variation and consent applications.

We note from the applicant's evidence that considerable progress has been made towards improving the treatment and management of trade waste by industries to ensure that the waste meets acceptable levels of contaminants and ensure that trade waste will not compromise overall compliance of the coastal permit conditions.

Overall effects on the marine receiving environment of the changes to the wastewater discharge quality are negligible.

### **16.5 The Wastewater Technical Advisory Group**

An important component of the variation sought to the consent conditions is the addition of a condition that will see the formation of the Wastewater Technical Advisory Group. The WTAG will have responsibilities for initiating a study of, and monitoring, the BTF plant to assess how well the WWTP is working and to provide advice and peer review for the Wastewater Alternative Use and Disposal Programme that is required as part of the existing 2007 consent conditions.

The introduction of the WTAG and its tasks is an important component in providing confidence to interested parties, and to the applicant, regarding the processes being followed and the on-going improvement of the overall wastewater treatment scheme. We found the details of the WTAG were usefully and practically addressed in the evidence of Mr Low. Mr Tupara expressed concern that Ngati Oneone as a tangata whenua group had not been involved in the work of the WARG and the WORG. We were advised by Mr Kite that they had not been excluded and we are aware that Mr Tupara was part of the original WARG. We also understand that the terms of those groups provide for other parties to be involved to ensure the views of the community are able to be expressed through them. We have included Ngati Oneone as part of the WTAG to address any concerns in this matter.

### **16.6 Effects on tangata whenua values**

The effects on tangata whenua from the existing wastewater arrangements at Gisborne and of the upgrade proposals has been a paramount consideration. It has been made very clear at all times, and over many years now, that the continued discharge of treated wastewater to the waters of Poverty Bay violates Maori tikanga and it is a major adverse effect on the cultural and spiritual sensitivities of tangata whenua. A key component of the on-going action to implement an improved wastewater treatment scheme is the input from tangata whenua, in partnership with the other interested parties, through the earlier WRAG and the WTAG. It is essential for that work to continue as a practicable approach to moving forward.

The applicant intends the proposed revised plant to address cultural concerns in that it will transform human waste to organic plant matter. The reporting carried out by the WTAG will confirm the exact amount of transformation of human waste to organic plant matter, and in 2013 will report to the consent holder and the Council on the adequacy of this transformation and make recommendations, if appropriate, on how further improvements to the quality of the discharge can be achieved.

Implementation and operation of the WTAG will provide a voice for tangata whenua values to continue to be incorporated in the ongoing monitoring and if need be, upgrading of the plant to meet tangata whenua aspirations for biotransformation and to ensure adequate removal of pathogens.

### **16.7 Relevant policy statements and/or plans**

The applicant's planner and the Council's reporting officer both provided details of the relevant policy and plan documents. The following are relevant to the variation:

- Operative NZ Coastal Policy Statement 1994
- Proposed NZ Coastal Policy Statement 2008
- Gisborne District Council Regional Policy Statement (RPS)
- Proposed Regional Coastal Environment Plan (PRCEP)
- Transitional Regional Coastal Plan (TRCP)
- Part Operative Gisborne District Combined Regional Land and District Plan (CRLDP).

The proposed and operative NZ Coastal Policy Statements are similar in respect of their policy concerning the treatment of human waste and direct consideration to disposal to land before consideration of disposal to water. The option of land based disposal has been shown to not currently be practicable at Gisborne and hence the investigation over recent years regarding the biotransformation process and the associated consents granted that incorporate it. Particular regard is to be given to the interests of Maori. The variation does not move too far away from the earlier consented approach and we find that it is in accord with the NZCPS documents. It is further in accord with the RPS and its policies and methods to achieve integrated management of the region's natural and physical resources particularly given that the variation and the overall wastewater treatment scheme is directed to improving the standard of treatment of Gisborne City sewage.

The PRCEP addresses the coastal environment in more detail and includes policies relating to natural character, tangata whenua and discharges. These provisions have all been considered as part of the 2007 consents and found to be satisfactorily addressed. We note that the application for a variation of the existing 2007 consent conditions is part of a continuing process of working towards upgrading the Gisborne wastewater treatment scheme and a process that tangata whenua and others are involved in. The variation does not affect that situation. For all these reasons too we find it to be consistent with the range of provisions in

the CRLDP that are directed toward avoiding and/or mitigating adverse effects on the environment.

We find that the relevant provisions in these policy statements and plans are met.

## **16.8 Section 107 RMA matters**

Compliance with section 107 RMA has been a continuing issue and details on the history of non-compliance, and the steps required to address that situation, are detailed in the 2007 consents decision report. Those steps include the specific conditions relating to the Independent Review Panel and the review work required of it with these measures being based on the co-operation that has been developed between the interested parties to the upgrade process and the work of the WARG, also established by way of the 2007 consent conditions.

The relevant aspects of s107 and comment on the proposed change in wastewater treatment and quality are as follows

*“Not allow the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials.”*

The 2007 consent conditions containing limits on total suspended solids and total oil and grease of the final discharge after mixing of the domestic and industrial wastewater are aimed at ensuring this does not occur. The variation includes the same conditions. We accept the evidence from Mr Macdonald that the maximum suspended solids loading from the proposed revised treatment plant will be within the 2007 consent limits. Total oil and grease currently regularly exceeds the consent limit, which is considered to generally be primarily due to the industrial wastewater component. The applicant is continuing to make progress in improving the treatment and management of trade waste by industries which includes reduction of oil and grease. The proposed BTF will assist in reducing total suspended solids, oil and grease from the domestic component of wastewater. To ensure that the wastewater meets acceptable minimum levels of contaminants and ensure that trade waste will not compromise overall compliance of the coastal permit conditions, proposed Condition 9 is the same as Condition 9 of the 2007 consents. This is the requirement for the permit holder to take all practicable steps to ensure that any industrial wastewater entering the network after December 2012 will not result in failure to meet the requirements of section 107 RMA.

*“Not allow any conspicuous change in the colour or visual clarity.”*

This is covered within the discussion of total suspended solids immediately above.

*“Any emission of objectionable odour”*

We are satisfied that there will be no objectionable odour associated with the discharge.

*“Any significant adverse effects on aquatic life.”*

This is covered within the summary above of key wastewater quality parameters or treatment plant requirements and comment on variation to the existing consent compared with the consented plant and consented quality.

We conclude that the conditions imposed as part of the 2007 consents, which are essential to achieve compliance with section 107 RMA, remain or that the change to them is not of significance in terms of section 107.

Based on the evidence provided it is concluded that the reduction in the level of treatment will not cause any noticeable increase in adverse effects over that that would be caused by the effluent if it were treated as per the 2007 consents. The consent conditions provide for ongoing review of the requirements for the level of treatment and allow for additional treatment components to be implemented to match the level of treatment of the 2007 consents.

## **16.9 Part 2 RMA**

Section 5 RMA states the purpose of the RMA is to promote the sustainable management of natural and physical resources. The application of section 5 RMA has been stated to involve an overall broad judgement of whether a proposal will promote the sustainable management of natural and physical resources. That approach recognises that the RMA has a single purpose and such a judgement allows for comparison of conflicting considerations and the scale or degree of them and their relative significance or proportion in the final outcome. In this case we are to balance the essential need for the upgrade works for the wastewater treatment scheme against strong concerns by tangata whenua and others about the current arrangements and also with the affordability of the upgrade to the community.

We arrive at the view that the variation of consent conditions sought, along with the requirement for designation of the Banks St site for the WWTP and the associated air discharge application, all directed towards the upgrading of the Gisborne wastewater treatment scheme is consistent with the purpose of the RMA. These proposals will enable people, and particularly the Gisborne community, to provide for their social, economic, and cultural wellbeing and for their health and safety by the provision of a wastewater treatment scheme designed to service the community and future population and economic growth of Gisborne. The proposals will provide for the health and safety of the Gisborne community by the improved standard of wastewater treatment. The applicant has sought to recognise and provide for the interests of Maori in these respects through the consultation process and a process that sees it committed to on-going investigations and technological improvements with a view to the eventual cessation of the discharge to sea.

The proposals work to sustain the potential of natural physical resources, in this case the existing infrastructure resource and the natural resource of the sea, to meet the reasonably foreseeable needs of future generations and are able to do so in a manner which safeguards the life-supporting capacity of air, water, and ecosystems. The various effects of activities on the environment that arise are able to be managed in a manner where any effects that are adverse to the environment are avoided, remedied or mitigated. This is through the details included in the proposals and by way of conditions on the resource consents and the designation that serve to reinforce and implement those measures.

The section 6, 7 and 8 RMA matters, as far as they relate to tangata whenua interests, continue to be taken account of insofar as the variation of consent conditions continue to recognise and provide for Maori through an on-going process of consultation with tangata whenua. In relation to the preservation of the natural character of the coastal environment and the protection of it the variation to the consent conditions will not alter existing arrangements. This section 6 RMA consideration in respect of Maori interests and of the coastal environment is also sufficient in our view to cover the range of policies that we are to have regard to in the New Zealand Coastal Policy Statement. In terms of other section 7 RMA matters the proposed upgrade of the wastewater treatment scheme is an efficient use and development of that existing public utility and associated infrastructure and will provide for the maintenance and enhancement of amenity values and of the quality of the environment.

In all, the circumstances relating to the variation to the consent conditions, along with the requirement for designation of the Banks St site for the WWTP and the associated air discharge application, are considered to be consistent with the purpose and principles of the RMA.

#### **16.10 Conclusion on the application for variation of conditions on consents**

We grant consent to the application for the variation of the existing 2007 consents. This is because it is in accord with the statutory provisions we need to apply to the consideration of it, and based on the evidence we received. The conditions have been amended as sought and include the additional formation of the WTAG with responsibilities for monitoring of the BTF plant and investigation relating to alternative use and disposal of wastewater.

### **17. DURATION OF CONSENTS**

Some submitters sought a change to the duration of the existing 2007 consents. This cannot be done. Section 127(1)(a) provides for a consent holder to apply for a change or cancellation of consent conditions, as is sought by the current application for a variation of conditions, but section 127(1)(b) states no holder of any consent may apply for a change or cancellation of a condition on the duration of the consent.

The consents for the air discharge application and the application for variation of existing consent conditions are until 2 July 2042 which aligns the consents with the 35 year terms of the 2007 consents. We consider it sensible and pragmatic that the consent periods be aligned in that manner given they are all concerned with the improved wastewater treatment scheme. Any shorter term would not sufficiently recognise the cost of the investigations and analysis to date, and of obtaining resource management approvals, and the considerable investment being made on behalf of the community.

### **18. THE REASONS FOR THE DECISIONS**

Pursuant to Section 113 of the Resource Management Act 1991, the reasons for the decisions are as follows:

- The variation to the consent conditions, the requirement for designation of the Banks St site and the associated air discharge all meet the relevant provisions of the statutory planning documents.
- The examination of the range of actual and potential adverse effects that may result from the variation to the consent conditions, the requirement for designation of the Banks St site and the associated air discharge are found to be capable of being avoided, remedied or mitigated or to be no more than minor. These effects are addressed through the details of the proposals and are further reinforced by way of conditions that apply to the granting of resource consents and confirming of the notice of requirement.
- The variation to the consent conditions, the requirement for designation of the Banks St site and the associated air discharge are all found to be consistent with the relevant statutory planning documents.
- The support of tangata whenua, along with other interested parties and the applicant through the WARG and the WORG, and further from now through the WTAG, provides some confidence that persons with an interest and concern for the treatment and disposal issues associated with wastewater in Gisborne can reach some common ground regarding how these issues can be addressed in the short and longer terms.
- In all of the circumstances we find the variation to the consent conditions, the requirement for designation of the Banks St site and the associated air discharge to be consistent with the purpose and principles of the Resource Management Act 1991.

## **19. THE DECISION ON THE NOTICE OF REQUIREMENT**

**Pursuant to Section 168A of the Resource Management Act 1991, the notice of requirement by the Engineering and Works Department of the Gisborne District Council for a designation for the construction, operation and maintenance of a wastewater treatment plant and future upgrading of the wastewater treatment plant (PZ-2008-103653-00) is confirmed subject to the conditions that follow, and for the reasons and findings stated in this decision report.**

**Further, pursuant to section 176A of the Resource Management Act 1991, a waiver of the requirement for an outline plan, for the first stage of the works only, is granted because the details of the work are sufficiently incorporated into the details of the designation and dealt with through the conditions imposed upon the designation.**

## **20. CONDITIONS**

1. The requiring authority shall prepare and implement an Environmental Management Plan (EMP) for the operation of the Wastewater Treatment Plant (WWTP), which addresses the following:
  - ▶ all management responsibilities;

- ▶ monitoring requirements;
- ▶ operational requirements, including requirements for limits on noise and vibration and how they are to be met;
- ▶ contingency and emergency procedures including description of site layout and operational features that prevent off site discharges of spilt or leaked liquids or waste, operational responses to spillage, leakage and failure scenarios including staff and contractor responsibilities, type and location of appropriate emergency equipment held on site;
- ▶ occupational health and safety procedures;
- ▶ Hazardous Substances and New Organisms Act 1996 (HSNO) requirements.

The EMP shall also address those relevant matters prescribed in Appendix 3: “Resource Consents, Management Plans and Audit Reports to the Proposed Gisborne District Council Plan for Discharges to Land & Water, Waste Management and Hazardous Substances”.

The EMP shall be prepared under the direction of a chartered professional engineer experienced in design and operation of treatment plants similar in scale and nature to that covered by this designation.

The EMP shall be reviewed by the requiring authority at least 2 yearly and amended as required, in particular if additional treatment components are added.

The requiring authority shall submit the EMP to the Manager: Environment & Planning, Gisborne District Council (the Manager) for review and certification at least two months prior to the commissioning of the WWTP.

2. Containment of spillage or overflows of wastewater:

The design and operation of the WWTP and associated pipework, pumps and other features, including overall site layout shall ensure there are no discharges of wastewater to adjoining land or the Waikanae Stream.

3. The requiring authority shall prepare and submit a Construction Management Plan (CMP) to the Manager for review and certification at least one month prior to the start of construction of the WWTP. The CMP shall address such matters as:

- Generation of dust;
- Construction noise; including mitigation of noise through provision of adequate silencers on construction vehicles and equipment and the operation of activities during day time hours;
- Construction vibration, including assessment of likely vibration effects on adjacent businesses, infrastructure and services and any communication and mitigation procedures necessary to ensure adequate mitigation;

- Construction dewatering effects on neighbouring properties, infrastructure and services and monitoring and mitigation measures if required;
- Increased traffic movements;
- Stormwater management and sediment control;
- Handling and storage of hazardous materials such as diesel.

The CMP shall be prepared by, or under the direction of persons who are appropriately qualified, experienced and competent to prepare a plan that adequately avoids, remedies or mitigates adverse effects of all construction activities on adjoining properties

4. The requiring authority shall ensure that only suitably qualified and experienced personnel are used for the design, construction, and operation and monitoring of the wastewater treatment plant, including operation of the odour control measures
5. The requiring authority shall ensure that all staff and contractors involved with the operation of the wastewater treatment plant receive training sufficient to operate the site in accordance with these conditions and the EMP.
6. Landscaping shall be provided within a 4.5 metre yard along the northern boundary adjacent to the amenity reserve. Plans of the proposed landscaping including the timing of plantings, the species of plants, and the means by which the plants shall be maintained or replaced over the establishment period, are to be prepared by a suitably qualified person to the satisfaction of the Manager prior to the commencement of the activities. The certified landscape plan(s) shall be implemented no later than the first available planting season after the commencement of construction. Any trees or other plants, which die or are removed within the first five years following the implementation of the landscaping plan, shall be replaced during the next planting season to the satisfaction of the consent authority.
7. All working areas, accessways, vehicle crossings, onsite parking and manoeuvring areas shall be finished with a sealed or paved surface and drained prior to the commencement of the activity and maintained to the satisfaction of the Gisborne District Council thereafter.

## **Noise**

8. The average maximum noise level ( $L_{10}$ ) arising from the site as measured at or within the boundary of any site zoned Amenity Reserve shall not exceed the 75 dBA at all times.

9. The average maximum noise level ( $L_{10}$ ) arising from the site as measured at or within the boundary of any site zoned industrial shall not exceed the 75 dBA at all times.
10. The average maximum noise level ( $L_{10}$ ) and maximum noise level ( $L_{max}$ ) as measured at or within the boundary of any site zoned residential shall not exceed the following limits:

Monday to Saturday				Sundays and Public Holidays			
AVERAGE MAXIMUM NOISE LEVEL ( $L_{10}$ ) dBA			( $L_{max}$ ) dBA	( $L_{10}$ ) dBA			( $L_{max}$ ) dBA
DAY 0700- 1800hr s	EVENING 1800- 2200hrs	NIGHT 2200- 0700hr s	NIGHT 2200- 0700hr s	DAY 0700- 1800hr s	EVENING 1800- 2200hrs	NIGHT 2200- 0700hr s	NIGHT 2200- 0700hr s
55	50	45	70	50	45	45	70

### Construction Noise

11. Emissions of construction noise shall not exceed 300 calendar days in any 12 month period.
12. The background sound level ( $L_{95}$ ), average maximum noise level ( $L_{10}$ ) and maximum noise level ( $L_{max}$ ) arising from any zone as measured at or within the boundary of any site zoned shall not exceed the following limits:

Time Period	AVERAGE MAXIMUM NOISE LEVEL (dBA)		
	$L_{95}$	$L_{10}$	$L_{MAX}$
Mon – Sat 0700-1800hrs	60	75	90
Mon- Sat 1800- 2200hrs	-	50	-
Mon- Sat 2200- 0700 hrs	-	45	70

Time Period	AVERAGE MAXIMUM NOISE LEVEL (dBA)		
	L <sub>95</sub>	L <sub>10</sub>	L <sub>MAX</sub>
Sun and Public Hols 0700-1800hrs	-	50	-
Sun and Public Hols 1800-2200 hrs	-	45	70
Sun and Public Hols 2200- 0700 hrs		45	70

13. The average maximum noise level (L<sub>10</sub>) arising from any zone as measured at or within the boundary of any site zoned industrial shall not exceed 75 dBA at all times.

### Vibration

14. The maximum weighted vibration level (Wb or Wd) arising from any site activity during construction and during WWTP operation as measured at or within the boundary of the WWTP site shall not exceed 60 mm/s<sup>2</sup> Wb (maximum weighted vibration) at all times.

### Lighting

15. All external lighting on site shall be designed and installed to avoid light spill beyond the boundary of the site.

### Waste

16. All waste generated by the activity shall be contained and disposed of to an approved site. An approved site is a site which is operating as a permitted activity under the Regional Plan for Discharges to Land and Water Waste Management and Hazardous Substances or, has a resource consent under the Resource Management Act 1991.

17. All potentially hazardous substances including polymer for sludge treatment, diesel fuel, sludge and the transfer of septic waste shall be stored/transferred within a suitably bunded or draining areas such as in the event of spillage no waste material shall enter the adjacent stream, street or neighbouring properties.
18. The requiring authority shall ensure that septage and sludge solids are kept on site for the minimum time practicable and shall be stored, as necessary, to avoid adverse effects from odour.

### **Maintenance**

19. The requiring authority shall keep in store in Gisborne sufficient spare parts for all critical equipment to ensure that the treatment plant can be maintained in full operating condition at all times, except during normal maintenance and replacement of spares. The requiring authority shall submit a spares inventory to the Independent Review Panel for confirmation of adequacy. The requiring authority shall certify annually to the Wastewater Management Committee that all required spares are available in Gisborne. (Note: the Independent Review Panel and the Wastewater Management Committee are formed as a consequence of conditions on other permits for components of the overall wastewater treatment scheme for Gisborne).

### **Natural Hazards**

20. Plant critical to the operation of the Gisborne Wastewater Treatment facility shall be placed at a level of at least RL 3.8 m or shall be sufficiently bunded or otherwise protected to avoid damage in floods to this level.

### Advice Notes:

- a) The storage of hazardous substances shall comply with the Hazardous Substances and New Organisms Act 1996.
- b) The operation of the generators in an emergency will increase the above noise levels by 5dBA.
- c) Pursuant to section 176A (2) (c) of the Resource Management Act 1991, the requirement for preparation of an outline plan for development of a single BTF (stage one of the development) has been waived. These works are to commence within twelve months of the designation being confirmed.

### **21. THE DECISION ON THE AIR DISCHARGE APPLICATION**

**Pursuant to Sections 104, 104A, 104B, 105 and 107 and Part 2 of the Resource Management Act 1991, the application by the Engineering and Works Department of the Gisborne District Council for a consent to discharge contaminants to air from the construction and operation of a wastewater treatment plant at 31 Banks Street, Gisborne, being Pt Lot 8 DP 5339 and Lot 1 DP 5707, is granted consent subject to the conditions that follow, and for the reasons and findings stated in this decision report.**

## **22. CONDITIONS**

### **In Accordance with application**

1. The operation of the wastewater treatment plant (WWTP) shall be carried out in accordance with the consent application and supporting documentation except to the extent that these are modified to comply with the terms of this consent.

### **Review of Conditions**

2. The Gisborne District Council may serve notice on the consent holder of its intention to review the conditions of this consent, in accordance with section 128 and section 129 of the Resource Management Act 1991 (RMA) within one month after the first anniversary of the commencement of this consent and within one month after each subsequent anniversary, for the following purposes:
  - a) To review the effectiveness of the conditions of this consent in avoiding or mitigating any adverse effects on the environment from the consent holder's activity and, if considered appropriate by the Gisborne District Council, to deal with such effects by way of further or amended conditions;
  - b) To review the appropriateness of conditions if changes to relevant national standards, regulations and guidelines, and the Council's relevant regional and district level plans alter the environmental performance;
  - c) To impose additional, or modify existing, conditions of this consent relating, but not necessarily limited, to the matters specified hereunder if the Gisborne District Council considers it necessary to deal with any adverse effect on the environment which may arise from the exercise of this consent and which it is appropriate to deal with at a later date.
  - d) To review the adequacy of and the necessity for monitoring undertaken by the consent holder. Such a review should be commenced only after consultation between the Gisborne District Council and the consent holder.

Actual and reasonable costs associated with the undertaking of each review shall be borne by the consent holder.

### **Personnel**

3. The consent holder shall ensure that only suitably qualified and experienced personnel are used for investigation, operation and monitoring of the WWTP.

### **Complaints Register**

4. The consent holder shall keep a record of all complaints and action taken, whether received direct from the complainant or advised by the Manager Environment &

Planning, Gisborne District Council (the Manager) or his or her agent. The complaint details shall include:

- a) The date, time, position and nature of the complaint; and
- b) The name, phone number and address of the complainant, unless the complainant refuses to supply these details; and
- c) Any remedial actions undertaken.

Details of complaints received shall be notified to the Manager as soon as practicable and in any case not later than within 24 hours of receipt of the complaint(s).

5. The consent holder shall immediately notify the Manager as soon as practicable and in any case not later than 24 hours upon becoming aware of discharges of odour or dust from the site that are causing or have caused an exceedance of either condition 6 or condition 15. The consent holder shall keep a record of any remedial action taken.

### **Odour**

6. There shall be no discharge of odour, in the opinion of an enforcement officer, as a result of exercising this consent that is offensive or objectionable beyond the site boundary.
7. The consent holder shall adopt the best practicable option to avoid or mitigate any potential adverse effects on the environment in order to ensure compliance with condition 6 arising as a result of discharges from the consent holder's activities.
8. The consent holder shall prepare and maintain an Odour Management Plan for the site. As a minimum, the Odour Management Plan shall set out:
  - Management and operational requirements necessary to comply with the conditions of this consent.
  - Contingency measures to be used in the event that condition 6 is not met
  - Procedure for the community odour survey as required by conditions 10
  - A description of measures to notify residents and otherwise apply the best practicable option to the management of odour associated with plant maintenance and repairs.

The Odour Management Plan may be incorporated into an overall Operation and Management Plan for the site.

9. The consent holder shall operate and undertake activities at the site in accordance with the Odour Management Plan required pursuant to condition 8.

### **Community Survey**

10. The consent holder shall undertake a community-based odour survey within six months of the commissioning of the plant for the purpose of assessing the effectiveness of odour control at the plant and the levels of off-site odour. The survey shall be undertaken in accordance with procedures set out in the Odour Management Plan.

11. The results of the survey including a discussion as to the implication of these results shall be provided to the consent authority within 2 months of the survey being undertaken.

### **Odour Monitoring**

12. The consent holder shall undertake a walkover inspection of the treatment plant and surrounding neighbourhood on at least a monthly basis. Any evidence of actual odour shall be recorded and investigated. Where necessary remedial action shall be undertaken as soon as practicable.

### **Reporting**

13. The consent holder shall make all records, monitoring and test results that are required by the conditions of this consent available on request, during operating hours, to an enforcement officer and shall keep these records for a minimum period of 24 months from the date of each entry.
14. The consent holder shall notify the consent authority as soon as practicable in the event of any significant increase in the discharge of contaminants to air, which has resulted or may result in adverse effects on the environment. In the event of an incident occurring the consent holder shall provide a written report to the consent authority within 10 days of the occurrence. The report shall give reasons for the incident, mitigation measures taken and any measures taken to prevent its reoccurrence.

### **Dust**

15. Where conspicuous dust is produced from the operational areas from land disturbance work including earthworks and construction work the dust shall be suppressed to the satisfaction of the consent authority to avoid nuisance effects.

### **Term of Consent**

16. The term of this consent shall be until 2 July 2042 to align with 35 year duration of the existing 2007 consents.

### Advice Notes:

#### Access

This consent is granted by the consent authority subject to its servants and agents being permitted access to the relevant parts of the site at all times for the purpose of carrying out inspections, surveys, investigations, tests, measurements or taking samples

#### Odour management

For the purposes of administering condition 10, it is recommended the consent holder undertake a baseline odour survey.

## 23. THE DECISION ON THE VARIATION OF CONSENT CONDITIONS

PURSUANT TO Sections 105, 107 and 127 and Part 2 of the Resource Management Act 1991, and in accordance with the delegation from the Minister of Conservation through Section 119A of the Resource Management Act 1991, the application by the Engineering and Works Department of the Gisborne District Council is granted for variation to conditions for the Coastal Permits CP-2008-1202-01, CP-2008-1203-01, CP-2008-1204-01, CP-2008-1205-01, CP-2008-1206-01, CP-2008-1207-01, CP-2008-1208-01, CP-2008-1209-01, and CP-2008-1210-01, as Restricted Coastal Activities, for a duration until 2 July 2042 (to accord with the 35 year terms of the existing consents), at or about grid reference NZMS 260 Gisborne Y18 : 2945300, 6269400 landward end and 2945200, 6267600 seaward end, subject to the conditions that follow, and for the reasons and findings stated in this decision report.

## 24. CONDITIONS

### “Definitions” section

In and for the purposes of this permit the following definitions will apply:

**Single BTF** means the Single Biological Trickling Filter (BTF) component of the Wastewater Treatment Plant

**Wastewater Disinfection** means the wastewater disinfection component of the Wastewater Treatment Plant

**Wastewater Technical Advisory Group (WTAG)** means a group formed by the permit holder to monitor and undertake studies to assess the effectiveness of wastewater plant performance and make recommendations as defined in clause 4A of these conditions.

**Wastewater Management Committee (WMC)** means a standing committee of the Gisborne District Council formed under clause 30 of the seventh schedule of the Local Government Act 2002, See clause 12 of these conditions. Functions of the WMC are defined in clause 16 of these conditions.

**BTF Plant Monitoring and Investigation Study** means a study undertaken by the permit holder stipulated in clause 4A of these conditions.

**Alternative Use and Disposal (AUD)** means beneficial use and non ocean disposal of disinfected wastewater

**Independent Review Panel (IRP)** means a review group established under clause 21 to undertake reviews and make recommendations as set out in condition 22. The IRP reports to the Wastewater Management Committee.

**BOD** means 5-day carbonaceous Biochemical Oxygen Demand

**LTCCP** means Long Term Council Community Plan

**Location 1, Location 2, Location 3 and Location 4** means locations as shown on Figure 2 (located at the end of the conditions) where wastewater is sampled or wastewater flow rate is measured

**WWTP** means Wastewater treatment plant

**RMA** means the Resource Management Act 1991.

**Note:**

**Figure 1** Benthic Survey, clauses 58, 59 and 60

**Figure 2** Single BTF Monitoring Diagram, clauses 33, 35, 36, 37, 41, 42, 43, 44 and 45.

**Location 1:** Influent immediately prior to the BTF

**Location 2:** Immediately after WWTP prior to mixing with industrial flow

**Location 3:** Industrial flow prior to mixing with domestic flow from BTF

**Location 4:** Immediately beyond the existing milliscreens

## **General Conditions**

### **In Accordance With The Application**

#### **Clause 1**

The activity consented by this permit shall be carried out in general accordance with the consent applications dated 30 September 2005 and the application for variations to these permits dated 7<sup>th</sup> December 2008.

### **Upgrading of the Wastewater Network**

#### **Clause 2**

The permit holder shall undertake pipe network improvement works to limit flows to the treatment plant to 33,000 m<sup>3</sup>/day except in extreme events. The extent of improvement works shall be determined using computer modelling of the network and in accordance with the best practicable option requirements of the Resource Management Act 1991 (RMA), and subject to review by the Independent Review Panel (IRP). The permit holder shall report on progress in 2012 and shall provide a report to the consent authority setting out a programme for the completion of any works outstanding at that time.

#### **Clause 3**

The permit holder shall submit to the consent authority by 31 December 2017 a report confirming that all practicable steps have been taken to ensure compliance with condition 2.

## **Installation, Monitoring and Investigation of Wastewater Treatment Plant**

### **Clause 4**

The permit holder shall use its best endeavours to ensure that the Single BTF Plant Commissioning occurs by 31 December 2010; and Wastewater Disinfection by 31 December 2012 and in any event no later than 31 December 2014.

### **Clause 4A**

#### **BTF Plant Monitoring and Investigation Study**

(a) The permit holder shall establish and retain by appointment of suitably qualified persons, the Wastewater Technical Advisory Group (WTAG), to initiate the BTF Plant Monitoring and Investigation Study and provide advice and peer review for the Wastewater Alternative Use and Disposal (AUD) Programme.

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

The WTAG shall comprise representatives of:

- Medical Officer of Health
- Tairāwhiti District Health Board
- Department of Conservation
- Te Runanga O Turanganui A Kiwa
- Ngāti Oneone
- Environmental Groups
- Gisborne District Council staff
- Others who may have a particular contribution to make to the workings of the group.

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

The composition of the WTAG is subject to invitees' willingness to participate.

(c) (i) The permit holder shall initiate the BTF Plant Monitoring and Investigation Study within 3 months of the issue of this permit.

(ii) Within six months of the issue of this permit the WTAG shall formulate the scope and methodology of the study, which is: a study into the scientific rationale and relevance of existing permit conditions 36, 37, 42, 43 and 44 and will have reviewed work to date on the AUD Programme.

(iii) The WTAG shall report at least annually and at such other times as may be necessary to the Wastewater Management Committee (WMC) and consent authority, and present such reporting to any public forum that the WMC considers appropriate. The report shall review progress on the BTF Plant Monitoring and Investigation Study, permit conditions 36, 37, 42, 43 and 44, and advice provided on the AUD Programme.

(iv) The third annual report from the WTAG, (3 years after Single BTF Plant Commissioning) shall report and recommend to the WMC and Council in regard to:

- a) Summaries of monitoring results of the BTF Plant Monitoring and Investigation Study.
- b) The extent of biotransformation being achieved by the BTF Plant.
- c) Appropriate parameters and a monitoring programme for ongoing assessment of biotransformation.
- d) Appropriate parameter limits to ensure biotransformation is being achieved.
- e) Review of existing permit conditions: 37, 42 and 43 and recommend any changes to these.
- f) Recommend what additional treatment steps (if any) are required to achieve biotransformation and other requirements that may be necessary to improve the quality of the discharge to avoid adverse effects.
- g) In the event of the WTAG being unable to make a recommendation to the permit holder as per f) above, or the permit holder refusing to implement any recommendations as per f) above, then clause 37 and clause 43 shall take effect.

(d) The BTF Plant Monitoring and Investigation Study shall:

- Investigate the extent of biotransformation achieved by the Single BTF plant, including the disinfection plant once it is installed:
  - Define biotransformation
  - Determine the relevance of BOD as a measure of biotransformation
  - Determine the relationship between Suspended Solids and biotransformation of wastewater
  - Determine through monitoring, data analysis and research relevant parameters to be used in assessing biotransformation
- Investigate the extent of micro-organism reduction achieved by the BTF plant and wastewater disinfection plant.
- Investigate through surveys, literature reviews and research the importance of social, cultural and environmental components of biotransformation in the treatment of wastewater.
- Determine the relationship if any between the BTF plant BOD loading and micro-organism reduction.
- Investigate the relationship between wastewater treatment processes and their carbon footprint.

(e) Peer review of the AUD Programme shall – ensure that the appropriate range of advice is being received by the WMC and that the advice is presented in a timely and transparent manner.

## **Alternative Use and Disposal**

### **Clause 5**

The permit holder shall initiate a research/study programme (“the programme”) within three months of the issue of this permit to investigate AUD of wastewater trials and undertake trials designed to identify feasible options for AUD after Installation of Wastewater Disinfection.

## **Clause 6**

The permit holder shall invite individuals or organisations who could be directly affected by particular alternative use or disposal trials, or subsequent works that arise from them, to participate in relevant parts of the programme. Such parties shall include, but not necessarily be limited to, larger waste producing industries, Federated Farmers and relevant tangata whenua groups on any matters relating to the use of productive land.

## **Clause 7**

The programmes required under condition 4A and condition 5 shall be developed having regard to the Best Practicable Option principles set out in the RMA and shall include consideration of:

- a) The alternative management options available to avoid, remedy or mitigate adverse effects of the discharge of treated wastewater on the marine environment and the financial implications of the alternatives, and their effects on the environment compared to discharge to the marine environment;
- b) The state of technical and scientific knowledge and the likelihood that the alternatives can be successfully implemented;
- c) The effects of alternatives on existing land uses and the options available to ensure compatibility.

## **Clause 8**

The permit holder shall use its best endeavours to adopt those AUD options that are identified as feasible and which will enable the progressive removal of the treated human sewage from the discharge, via the marine outfall, with the objective of complete removal by 2020.

## **Industrial Treatment**

### **Clause 9**

The permit holder shall take all practicable steps to ensure that any industrial wastewater entering the wastewater network, after 31 December 2012, will not result in the combined discharge of wastewater from the Council's wastewater system to the marine environment failing to meet the requirements of section 107 of the RMA. As a minimum, the permit holder shall seek the advice of the IRP described in condition 21 on the adequacy of existing or future industrial wastewater management methods to ensure this condition will be met.

### **Clause 10**

The permit holder shall investigate the feasibility of minimising, reusing or further beneficially treating the separated industrial component of the wastewater stream and shall use its best endeavours to secure the co-operation of local industry for this purpose.

### **Clause 11**

The permit holder shall use its best endeavours to identify partial or possible complete reuse or further beneficial treatment of the industrial discharge.

## **Wastewater Management Committee**

### **Clause 12**

The permit holder shall establish, and retain, a Wastewater Management Committee (WMC) as a standing committee of the Gisborne District Council under clause 30 of the Seventh Schedule of the Local Government Act 2002 within three months of the issue of this permit, or as soon as practical thereafter.

### **Clause 13**

The permit holder shall provide organisational and administrative support to facilitate the development, ongoing role and function of the WMC.

### **Clause 14**

The membership of the WMC shall comprise four Councillors and four Tangata Whenua representatives and other members that the WMC itself shall determine from time to time.

### **Clause 15**

The WMC may appoint, or invite participation in an advisory or consultative capacity, other persons from:

- Gisborne District Council staff
- Tairāwhiti District Health Board
- Department of Conservation
- Industry
- Recreational groups
- Environmental groups
- Federated Farmers
- Others who may have a particular contribution to make to the workings of the WMC.

### **Clause 16**

The functions of the WMC shall include, but not be limited to:

- Monitoring the implementation and commissioning of the Wastewater Treatment Plant (WWTP) including the development of a WWTP operating manual.
- Monitoring the BTF Plant Monitoring and Investigation Study.
- Monitoring AUD research.
- Recommending AUD trials.
- Monitoring the AUD trials.

- Recommending AUD implementation.
- Monitoring compliance with permit conditions and separated industry wastewater standards.
- Ensuring the development of appropriate educational information to encourage reductions in domestic and industrial wastewater.
- Ensuring the development of appropriate educational information to encourage AUD.
- Developing and administering the Turanganui A Kiwa Water Quality Enhancement Project.
- Recommending the membership of and receiving reports from the IRP.
- Providing an annual report on the exercise of its activities and functions, including where appropriate a report on the effectiveness of measures undertaken by the Turanganui A Kiwa Water Quality Enhancement Project.

This report shall be provided to the Chief Executive of the Gisborne District Council during the month of June of each year for the duration of this permit.

#### **Clause 17**

The WMC shall be convened by the permit holder and shall meet four times annually until 31 December 2015 and thereafter at least twice a year for the remainder of the duration of the permit, or as determined by the WMC.

#### **Turanganui a Kiwa Water Quality Enhancement Project**

#### **Clause 18**

The permit holder shall establish, administer, retain and be responsible for the Turanganui A Kiwa Water Quality Enhancement Project within three months of the issue of this permit, or as soon as practical thereafter.

#### **Clause 19**

The project shall be defined and developed by the WMC as a vehicle for integrated research, monitoring, planning and specific projects that will aim to improve the mauri and the water quality of Turanganui A Kiwa.

#### **Clause 20**

Removed by Variation of Consent Conditions, June 2009

#### **Independent Review Panel**

#### **Clause 21**

The permit holder shall appoint an IRP to undertake reviews as set out in condition 22 and report to the WMC. The IRP shall comprise two to four members, depending on the subject of the particular review. IRP members shall have expertise of direct relevance to the subject of the review and shall generally include one person with expertise in wastewater management, including treatment, and one person with expertise in resource management.

For reviews undertaken in accordance with condition 22 (d) and (e), the IRP shall include a person with expertise in kaupapa Maori.

## **Reviews to be Undertaken**

### **Clause 22**

The permit holder shall ensure the following reviews are undertaken:

- a) Review of industrial wastewater discharges in terms of condition 10.
- b) Review of progress of:
  - the wastewater upgrade, including pre-tender reviews for the Single BTF Plant, Wastewater Disinfection, and additional plant requirements if any, that are recommended by the WTAG in their 3<sup>rd</sup> Annual Report in 2013;
  - the Odour Management Plan;
  - and performance reviews of the WWTP one year after the commissioning of the initial BTF and one year after the commissioning of the disinfection system.
- c) Review of the AUD Programme one year after it is initiated in 2012 and in 2018, or as otherwise determined by the permit holder, taking into account recommendations from the WMC.
- d) Six yearly reviews, co-ordinated with the timing of the Long Term Council Community Plan (LTCCP) reviews, starting in 2012 or as otherwise necessary to suit LTCCP timeframes. The purposes of the six yearly reviews shall include to the extent appropriate, but not be limited to:
  - Review of progress in relation to sewer network improvement works as required by condition 2.
  - Review of monitoring and compliance of the coastal permit.
  - Review and recommend any necessary changes to consent conditions.
  - Review of the BTF Plant Monitoring and Investigation study as per 22 b).
  - Review and recommend any necessary changes to the Turanganui A Kiwa Water Quality Enhancement Project.
  - Recommend additional experts and any necessary changes to the functions of the IRP.
  - Address any other matters identified by the WMC as requiring review.
  - Adequacy of spares kept in store in Gisborne to ensure the wastewater treatment plant can be maintained in full operating condition at all times, except during normal maintenance and replacement of spares.
- e) Review the recommendations of the BTF Plant Monitoring and Investigation Study.

### **Clause 23**

The IRP may consult with parties it considers can provide information that may assist the review process, subject to the approval of the WMC.

#### **Clause 24**

The IRP shall report to the WMC within one month of the completion of each review, and send a copy to the permit holder and to the consent authority and the Minister of Conservation.

#### **General Review Clause**

#### **Clause 25**

The consent authority may review the conditions of this permit by serving notice of its intention to do so on the permit holder pursuant to section 128 and section 129 of the RMA in the month of June at yearly intervals for the duration of the permit.

#### **Clause 26**

**There shall be general reviews undertaken by the consent authority of the consent conditions as follows:**

(a) Review conditions in clauses 37, 41, 42, 43, 44 and 45 of this permit by serving notice of its intention to do so on the permit holder pursuant to section 128 and section 129 of the RMA. The review will be notified to all submitters to consent applications CP20516, CP205017, CP205018, CP205019, CP205020, CP205021, CP205022, CP205023 and CP205024.

(b) To require the permit holder to adopt the best practicable option to remove or reduce any adverse effect on the environment resulting from the discharge.

(c) To modify the monitoring programme if the record of monitoring to date indicates that it is appropriate to do so, including in order to meet the environmental outcomes required of the permit.

(d) To deal with any adverse effect on the environment which may arise from inadequate biotransformation of waste.

(e) To implement, as appropriate, recommendations of the WTAG contained in its BTF Monitoring and Investigation Study Report.

(f) To require amendments to plant configuration (including the number of BTF filters) necessary to achieve appropriate levels of biotransformation, where the review indicates the level of biotransformation being achieved is not what could be expected in terms of considerations of Part II of the RMA.

(g) To review the appropriateness of conditions if there are changes to relevant national standards, regulations and guidelines, and the Council's relevant regional and district level plans.

(h) To consider any new technological changes in assessing micro-organisms where relevant to monitoring of the WWTP and the receiving environment.

(i) To assess the Single BTF Plant and Wastewater Disinfection and the need for further treatment stages.

The review of conditions shall allow for:

- (i) The deletion or amendment of any of the conditions of these consents; and/or
- (ii) The addition of new conditions as necessary to avoid, remedy or mitigate any adverse effects on the environment, including any unforeseen adverse environmental effects and to take into account recommendations of the WMC.

Actual and reasonable costs associated with the undertaking of each review shall be borne by the permit holder.

### **Specific Review Clause**

#### **Clause 27**

The consent authority shall review conditions of this permit by serving notice of its intention to do so on the permit holder pursuant to section 128 and section 129 of the RMA during the month of June 2015 and June 2021 to review the following specific matters:

(a) To review progress in relation to condition 2, and in particular to consider the report from the IRP required under condition 22 (d) and to set a date for completion of any outstanding works.

(b) To review progress in relation to AUD as set out in conditions 5 to 8 and to require the permit holder to undertake such other work identified by the IRP in accordance with condition 22 (c) and accepted as appropriate by the WMC as being reasonably necessary to satisfy the “best endeavours” requirements of condition 8.

(c) To review, in 2018, the “Best Practicable Option” based on the outcomes of the AUD Trials and the requirements of the RMA and to determine what changes to the conditions of this consent, if any, are required.

(d) To implement, as appropriate, recommendations of the WTAG contained in its BTF Plant Monitoring and Investigation Study report.

(e) To require amendments to plant configuration (including the number of BTFs) necessary to achieve appropriate levels of biotransformation, consistent with achieving the RMA’s purpose.

### **Term of Consents**

#### **Clause 28**

The Term of Consents is 35 years from 2007 when the consents were granted..

Note: CP-2008-1208-01 and CP-2008-1210-01 expire 21 September 2042

CP-2008-1202-01 to CP-2008-1207-01 (inclusive) and CP-2008-1209-01 expire 2 July 2042.

### **Specific Conditions CP-2008-1208-01 (ex CP205022)**

#### **Clause 29**

This permit shall be carried out in accordance with the consent application and supporting documentation except to the extent that these are required to be modified to comply with the terms and conditions of the permit.

#### **Clause 30**

The conditions of this permit shall be read in conjunction with the conditions of the designations from the Notices of Requirement for Designation, PZ-103653-00 and the conditions of consents: DA-103680-00, CP-1202-01, CP-1203-01, CP-1204-01, CP-1205-01, CP-1206-01, CP-1207-01, CP-1208-01, CP-1209-01 and CP-1210-01.

### **Discharge to Outfall Monitoring Up Until Single BTF Plant Commissioning**

#### **Clause 31**

The permit holder shall install and operate at a point beyond the existing milliscreens, at Location 4 in Figure 2, such systems and measuring devices as are necessary, to monitor, analyse and record wastewater discharge in cubic metres per second for maximum and average daily flow rates from the discharge point.

#### **Clause 32**

The permit holder shall sample, analyse and record from a composite flow proportional sample the following from the wastewater discharge beyond the existing milliscreens, at Location 4:-

- (i) Floatable oil and grease in terms of  $\text{g/m}^3$  and  $\text{kg/day}$ .
- (ii) Total oil and grease in  $\text{g/m}^3$  and  $\text{kg/day}$ .
- (iii) Suspended solids in  $\text{g/m}^3$  and  $\text{kg/day}$ .
- (iv) 5-day carbonaceous BOD and COD in  $\text{g/m}^3$  and  $\text{kg/day}$ .
- (v) Particles retained by a 1-mm x 25 mm screen in  $\text{g/m}^3$  and  $\text{kg/day}$ .
- (vi) Particles retained by a 1-mm 2-dimensional sieve in  $\text{g/m}^3$  and  $\text{kg/day}$
- (vii) Enterococci in cfu/100 ml.

#### **Clause 33**

Based upon weekly sampling taken thereafter until Single BTF Commissioning, at Location 4:

- (i) There shall be no particles retained on a test section of a 1 mm screen; and
- (ii) The following standards shall be met:

Parameter	Sample Type	Concentration Mass Load	
		Limit (g/m <sup>3</sup> )	Limit (kg/day)
Total Oil and Grease	Composite	60	1080
Floatable Oil and Grease	Composite	20	360
Suspended Solids, Until Wastewater Disinfection commissioning	Composite	900	16,200
Suspended Solids, After Wastewater Disinfection commissioning	Composite	600	10,800

Compliance with the concentration and mass load based limits shall be determined on the basis of there being no more than 3 exceedances of the concentration and mass load limits in any discrete period of 26 consecutive samples.

#### **Clause 34**

Once every three months separate 'grab' samples shall be taken from Location 4, on a randomly selected day and the same day in that week as the flow proportional sample and analysed for the following parameters:

- Suspended Solids
- Total Oil and Grease
- Floatable Oil and Grease
- 5-day carbonaceous BOD

These 'grab' samples shall be taken at 1100 and 1500 NZST.

#### **Wastewater Treatment Plant Monitoring Subsequent to Single BTF Plant Commissioning and up Until Wastewater Disinfection.**

#### **Clause 35**

(a) The permit holder shall install and operate such systems and measuring devices as are necessary to monitor, analyse and record wastewater discharge in cubic metres per second for maximum and average daily flow rates from the following discharge points:

- (i) Immediately after the discharge leaves the WWTP and prior to it mixing with the industrial flow, at Location 2.
- (ii) The industrial flow prior to mixing with the discharge from the BTF, at Location 3.

(b) The permit holder shall install and operate such systems and measuring devices as are necessary to monitor, analyse and record wastewater BOD (soluble and total) and suspended solids (volatile and total) characteristics from influent immediately prior to the BTF, at Location 1.

#### Advice Note

The total discharge flow shall be calculated by adding the flows at Location 2 (Clause 35 (a) (i)) and Location 3 (Clause 35 (a) (ii)), see Figure 2 for Locations 2 and 3.

#### **Clause 36**

The permit holder shall sample, analyse and record from a composite flow proportional sample the following parameters from the wastewater discharge at:

(a) Location 1 and Location 2 for:-

- (i) Floatable oil and grease in terms of  $\text{g/m}^3$  and  $\text{kg/day}$ .
- (ii) Total oil and grease in  $\text{g/m}^3$  and  $\text{kg/day}$ .
- (iii) Suspended solids in  $\text{g/m}^3$  and  $\text{kg/day}$ .
- (iv) 5-day carbonaceous BOD and COD in  $\text{g/m}^3$  and  $\text{kg/day}$ .
- (v) Enterococci in cfu/100 ml
- (vi) Further parameters as agreed in the BTF Plant Monitoring and Investigation Study.

(b) Location 3 for:

- (i) Floatable oil and grease in terms of  $\text{g/m}^3$  and  $\text{kg/day}$ .
- (ii) Total oil and grease in  $\text{g/m}^3$  and  $\text{kg/day}$ .
- (iii) Suspended solids in  $\text{g/m}^3$  and  $\text{kg/day}$ .
- (iv) 5-day carbonaceous BOD and COD in  $\text{g/m}^3$  and  $\text{kg/day}$ .
- (v) Enterococci in cfu/100 ml

(c) And additionally at Location 1 and Location 3 for:

- (i) Particles retained by a 1 mm x 25 mm screen in  $\text{g/m}^3$  and  $\text{kg/day}$ .
- (ii) Particles retained by a 1 mm x 2-dimensional sieve in  $\text{g/m}^3$  and  $\text{kg/day}$

#### **Clause 37**

This condition is to be implemented only if required as set out in condition 4A (c) (iv).

The permit holder shall sample, analyse and record BOD in  $\text{g/m}^3$  and  $\text{kg/day}$  prior to the initial BTF at Location 1. Based on the results of analyses of weekly sampling the annual average daily loading of the BOD on the BTF or BTFs shall not exceed 0.4 kg per cubic metre of media.

#### **Clause 38**

Based upon twice weekly sampling, taken over the first six months after the Single BTF Plant Commissioning and weekly sampling thereafter until 31 December 2012, all industrial wastewater discharged at Location 3, shall meet the following standards:

Parameter	Sample Type	Concentration Limit
Suspended Solids	Composite	600 g/m <sup>3</sup>
Total Oil and Grease	Composite	60 g/m <sup>3</sup>

Compliance with the concentration and mass load based limits shall be determined on the basis of there being no more than 3 exceedances of the concentration and mass load limits in any discrete period of 26 consecutive samples.

All other parameters in condition 36 (b) shall also be sampled at the same frequency.

### **Grab Samples**

#### **Clause 39**

Once every three months separate 'grab' samples shall be taken from monitoring points at Location 2 and Location 3 on a randomly selected day of the week and the same day in that week as the flow proportional sample and analysed for the following parameters:

- Suspended Solids
- Total Oil and Grease
- Floatable Oil and Grease
- 5 day carbonaceous BOD

These 'grab' samples shall be taken at 1100 and 1500 NZST.

### **Subsequent to wastewater disinfection commissioning and for the Remaining Duration of the Permit**

#### **Clause 40**

The permit holder shall continue to operate such systems and measuring devices as are necessary, to monitor, analyse and record wastewater discharge in cubic metres per second for maximum and average daily flow rates from Location 2 and Location 3.

#### **Clause 41**

(a) The permit holder shall sample, analyse and record from a composite flow proportional sample the following from the wastewater discharge at Location 2 and Location 3:

- (i) Floatable oil and grease in terms of g/m<sup>3</sup> and kg/day.
- (ii) Total oil and grease in g/m<sup>3</sup> and kg/day.
- (iii) Suspended solids in g/m<sup>3</sup> and kg/day.
- (iv) 5-day BOD or COD equivalent in g/m<sup>3</sup> and kg/day.
- (v) Enterococci in cfu/100 ml

And immediately beyond the milliscreens:

- (i) Particles retained by a 1 mm x 25 mm screen in  $\text{g/m}^3$  and kg/day.
- (ii) Particles retained by a 1 mm x 2-dimensional sieve in  $\text{g/m}^3$  And kg/day.

(b) The permit holder shall maintain and operate such systems and measuring devices as necessary to sample, analyse and record the following parameter from the wastewater at Location 1 for :-

- (i) BOD in  $\text{g/m}^3$  and kg/day.

#### **Clause 42**

Stipulates enterococci limit on wastewater discharge to Poverty Bay.

Enterococci shall be sampled on a daily basis for the first 100 days immediately subsequent to wastewater disinfection commissioning and thereafter at weekly intervals for the duration of this permit. The discharge shall meet the following standards:

Parameter	Sample Type	Parameter limit, as cfu/100 ml sample
Enterococci	Grab	1000

Compliance with this condition shall initially be determined on the basis of there being no more than 8 exceedances of the specified number limit within the initial 100 day period of operation and, thereafter no more than 3 exceedances of the concentration based limit in any discrete period of 26 consecutive samples.

#### **Clause 43**

This condition is to be implemented only if required as set out in condition 4A (c) (iv).

Based upon weekly sampling after wastewater disinfection commissioning from a composite flow proportional sample taken over a period of 24 hours on a randomly selected day of the week for the term of the permit, all wastewater discharged beyond the wastewater treatment plant at Location 2 shall meet the following standards:

Parameter	Sample Type	Parameter Limit, Concentration Limit
Suspended Solids	Composite	$30 \text{ g/m}^3$
Total Oil and Grease	Composite	$10 \text{ g/m}^3$

Compliance with the concentration based limits shall be determined on the basis of there being no more than 16 exceedances of the concentration limit in any discrete period of 26 consecutive samples.

#### **Clause 44**

Stipulates enterococci limit on separated industrial wastewater stream

Based upon daily sampling immediately subsequent to wastewater disinfection for the first 100 days and sampling weekly thereafter, all industrial wastewater discharged at Location 3 shall meet the following standards:

Parameter	Sample Type	Parameter limit as cfu/100 ml Sample
Enterococci	Grab	1000

Compliance with this condition shall initially be determined on the basis of there being no more than 8 exceedances of the specified number within the initial 100 day period of operation and, thereafter no more than 3 exceedances of the concentration based limit in any discrete period of 26 consecutive samples.

#### **Clause 45**

Based upon twice weekly sampling for 6 months subsequent to installation of wastewater disinfection and sampling weekly thereafter for the term of the consent, all industrial wastewater discharged at Location 3 shall meet the following standards:

Parameter	Sample Type	Concentration Limit
Suspended Solids	Composite	600 g/m <sup>3</sup>
Total Oil and Grease	Composite	60 g/m <sup>3</sup>

Compliance with the concentration and mass load based limits shall be determined on the basis of there being no more than 3 exceedances of the concentration and mass load limits in any discrete period of 26 consecutive samples.

#### **Plume Monitoring**

#### **Clause 46**

The permit holder shall collect samples at hourly intervals from the wastewater beyond the existing milliscreens (Location 4) and store these samples for a minimum of 24 hours. If a “conspicuous” plume or slick attributable to the outfall discharge is identified (by a suitably trained person), sample analysis for suspended solids and total oil and grease shall be carried out on those samples coinciding with the observance of the “conspicuous” plume or slick. After 24 hours subsequent to samples being collected, samples not required for sample analysis may be discarded.

The permit holder shall inform the consent authority within 24 hours of a “conspicuous” plume or slick being identified and samples being analysed and shall provide the sample analysis results within 10 working days of the samples being collected.

This condition shall apply until Single BTF Plant Commissioning or an approved methodology as described in condition 47 is in place.

#### **Clause 47**

The permit holder shall provide a methodology to the approval of the consent authority, within 24 months from the date of issue of the consent, to investigate the possible relationship between the occurrence of a conspicuous plume or slick, as identified by the relevant authority, and the concentrations of suspended solids and oil and grease in the discharge, as referred to in condition 46.

#### **Grab Samples**

#### **Clause 48**

Once every three months separate 'grab' samples shall be taken from monitoring points at Location 2 and Location 3, on a randomly selected day and the same day in that week as the flow proportional sample and analysed for the following parameters:

- Suspended Solids
- Total Oil and Grease
- Floatable Oil and Grease
- 5-day carbonaceous BOD

These 'grab' samples shall be taken at 1100 and 1500 NZST.

#### **Additional Monitoring For The Duration Of This Permit**

#### **Heavy Metals & Organic Compounds**

#### **Clause 49**

The permit holder shall carry out heavy metal and organic compound analysis of the combined wastewater stream, at Location 4, at intervals not exceeding six months for heavy metals and not exceeding 12 months for organic compounds, or at such other occasions that the consent authority considers circumstances so require or as required by the WMC. A copy of each analysis report shall be forwarded to the consent authority within 30 days of samples being collected. The following parameters are to be tested for:-

Parameter(s)	Units
Cadmium	g/m <sup>3</sup> , g/d
Chromium	g/m <sup>3</sup> , g/d
Copper	g/m <sup>3</sup> , g/d
Lead	g/m <sup>3</sup> , g/d
Mercury	g/m <sup>3</sup> , g/d
Zinc	g/m <sup>3</sup> , g/d
Semi Volatile Organic Compounds	g/m <sup>3</sup> , g/d
Volatile Organic Compounds	g/m <sup>3</sup> , g/d

The sample is to be taken from a 24-hour flow proportional composite sample and the results are to be given in both g/m<sup>3</sup> and g/day.

**Clause 50**

The levels of heavy metals in the combined wastewater stream shall not be greater than:

Parameter(s)	Parameter Limits (g/m <sup>3</sup> )
Cadmium	0.8 g/m <sup>3</sup>
Chromium	2.0 g/m <sup>3</sup>
Copper	0.2 g/m <sup>3</sup>
Lead	0.2 g/m <sup>3</sup>
Mercury	0.004 g/m <sup>3</sup>
Zinc	2.0 g/m <sup>3</sup>

If on any sampling occasion, any sample exceeds any of the above limits, the permit holder shall resample the discharge for the non-compliant parameter as soon as practical after the exceedance is found, notify the consent authority as soon as possible and as a maximum within 24 hours and shall carry out investigations into the likely cause of that exceedance. The permit holder shall forward an investigation report to the consent authority within 30 days of that sampling occasion.

**Nutrients**

**Clause 51**

The permit holder shall monitor the combined wastewater stream at Location4 for the following nutrients:

<u>Nitrogen</u>	<u>Units</u>
Total Kjeldahl Nitrogen	g/m <sup>3</sup>
Ammonium Nitrogen	g/m <sup>3</sup>
Nitrate Nitrogen	g/m <sup>3</sup>
Dissolved Inorganic Nitrogen	g/m <sup>3</sup>

Phosphorus

Total Phosphorus	g/m <sup>3</sup>
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The permit holder shall carry out nutrient analysis for nitrogen compounds, as outlined above and phosphorus from the combined wastewater stream at intervals not exceeding 3 months or at such other occasions when the consent authority considers circumstances so require. A copy of each analysis report shall be forwarded to the consent authority within 30 days of samples being collected.

The samples shall be taken from a 24-hour flow proportional composite sample and results provided in both grams per cubic metre (g/m<sup>3</sup>) and kilograms per day (kg/d).

## **Pathogens**

### **Clause 52**

The permit holder shall sample, analyse and record the following from wastewater samples taken at Location 2 and Location 3:

- (i) Bacteria, sample for the species Salmonella and Campylobacter.
- (ii) Viruses, sample for human enterovirus and adenovirus.
- (iii) Protozoa, sample for the species Giardia and Cryptosporidium.
- (iv) Sample for Enterococci.

### **Clause 53**

Subsequent to and within one month of Single BTF Plant Commissioning the wastewater discharge shall be sampled at the locations and for the species outlined in conditions 52 (i), (ii), (iii) and (iv). Monitoring shall continue at six monthly intervals for two years and annually thereafter until superseded by condition 54.

### **Clause 54**

Subsequent to and within one month of wastewater disinfection commissioning, including ultraviolet disinfection, the wastewater discharge shall be sampled at the locations and for the species outlined in conditions 52 (i), (ii), (iii) and (iv). Monitoring shall continue at six monthly intervals for two years and annually thereafter for the duration of this permit.

### **Clause 55**

Sample analysis results shall be provided to the consent authority within 60 days of samples being collected. Sample analysis results shall include a ratio of indicator organisms with each pathogen sampled in conditions 53 and 54.

## **Whole Effluent Toxicity**

### **Clause 56**

The permit holder shall commission a programme of effluent toxicity testing and reporting. The programme shall include a 24-hour flow weighted composite sample of the combined discharge taken once every three months and tested for toxicity using standard protocols for the following three test species:

- (i) Marine Algae (*Minutellus polymorphus*)
- (ii) Blue Mussel Embryo (*Mytilus galloprovincialis*)
- (iii) Wedge Shell (*Macmona liliana*)

The frequency shall be changed to once each year if no toxicity is demonstrated in four successive samples. No toxicity is defined as: “TEC (threshold effect concentration) value for the most sensitive of the three test organisms shall represent a dilution in uncontaminated near shore water of no more than 200 times.”

Results for testing and analysis shall be reported to the consent authority, within three months of testing. The programme shall also identify the management response to be undertaken by the permit holder in the event that more than 200 times dilution is required for no toxicity.

## **Monitoring of the Receiving Environment for the Duration of the Permit**

### **Indicator Organisms**

#### **Clause 57**

The permit holder shall carry out monitoring of the indicator organisms Enterococci and Faecal Coliforms, and provide results as colony forming units per 100 ml samples, from the following sites:

(a) Up until 31 December 2015 or commissioning of wastewater disinfection, whichever occurs sooner :

- The Outfall Mid-Diffuser
- Any Visible Plume at 250 metres and 500 metres from the Outfall Diffuser
- 250 metres Northwest of the Diffuser
- 250 metres North of the Diffuser
- 250 metres Northeast of the Diffuser
- 250 metres Southwest of the Diffuser
- 250 metres South of the Diffuser
- 250 metres Southeast of the Diffuser
- 500 metres Northwest of the Diffuser
- 500 metres North of the Diffuser
- 500 metres Northeast of the Diffuser
- 500 metres Southwest of the Diffuser
- 500 metres Southeast of the Diffuser
- Background Site.

Sample analysis shall occur twice monthly during the months November to March inclusive and monthly during the months April to October inclusive and shall coincide with state of the environment monitoring of beach and coastal river sites.

(b) Subsequent To Installation of Wastewater Disinfection:

- The Outfall Mid-Diffuser
- Any Visible Plume at 250 metres and 500 metres from the Outfall Diffuser
- 250 metres Northwest of the Diffuser
- 250 metres North of the Diffuser
- 250 metres Northeast of the Diffuser

- 250 metres Southwest of the Diffuser
- 250 metres South of the Diffuser
- 250 metres Southeast of the Diffuser
- Background Site.

Sample analysis shall occur twice monthly during the months November to March inclusive and monthly during the months April to October inclusive and shall coincide with state of the environment monitoring of beach and coastal river sites.

## **Benthic Survey**

### **Clause 58**

A benthic survey shall be carried out by the permit holder:

- (i) More than six months but less than one year subsequent to 31 December 2015 or commissioning of the wastewater disinfection, whichever comes sooner.
- (ii) Thereafter at no more than 10-year intervals for the duration of this permit.
- (iii) There shall be a minimum of four benthic surveys during the 35-year duration of this permit.

The survey shall be comparable with former benthic surveys of Poverty Bay (Cawthron), as outlined in Figure 1, unless otherwise approved by the consent authority.

## **Soft Bottom Substrate**

### **Clause 59**

Transects shall be sampled, as outlined on Figure 1:

- (i) SW orientation at the following intervals:  
50W, 100W, 200W, 300W, 400W, 800W, 1200W, 1600W, 2000W and 2400W
- (ii) SE orientation at the following intervals:  
0 (outfall), 50SE, 100SE, 200SE, 300SE, 400SE, 800SE and 2400SE.

The following parameters shall be sampled and analysed at each site outlined in sub-clauses (i) and (ii):

- Grain size
- Heavy metals,
- Organic matter,
- Stable isotopes,
- Infauna

## **Rocky Reef Substrate**

### **Clause 60**

The following parameters sub-clause (i) shall be sampled and analysed at each of the sites outlined in sub-clause (ii) for the species outlined in subclause (iii)

- (i) Parameters:
  - Stable isotopes,
  - Heavy metals,
  - Poly Aromatic Hydrocarbons,
- (ii) From rocky reef communities, species as sampled during the Cawthron survey:
  - Tokomaru Rock.
  - Te Moana Rock.
  - Waihora Rock.
- (iii) Species
  - Crayfish tissue for trace metals and polyaromatic hydrocarbons
  - Crayfish gut content and red macro algae for stable isotopes.

## Visual

### Clause 61

Suspended solids shall be monitored continually on-line by a suspended solids meter which shall continue to be maintained at an agreed location after mixing of all wastewater streams prior to discharge from the outfall. When the suspended solids meter records a sustained result exceeding the concentration limits specified in conditions 33 or 38 or 43 and 45, whichever are relevant and appropriate, for a period exceeding 5 minutes duration the permit holder shall visually inspect the bay from Kaiti Hill/Titirangi either on-site or using the on-site digital camera if weather conditions allow use of the camera.

A camera with focal length, field of vision, magnification and image quality (as defined by an independent suitably qualified and experienced professional) and approved by the consent authority shall be continue to be maintained at the existing vantage point on Kaiti Hill /Titirangi and directed at the outfall zone. A suitably trained person shall be employed by the consent authority to determine the occurrence of conspicuous plume/or slick.

Should a conspicuous plume/or slick be identified that may be attributable to the discharge from the Outfall Pump Station then twice daily surveillance at 11.00 am and 1.00 pm from Kaiti Hill /Titirangi shall commence and shall continue for the ensuing week. Surveillance photographs shall also be taken by the camera at hourly intervals during daylight hours over the same period. Images of surveillance photographs shall be forwarded to the consent authority within five working days of being taken. The images shall be stored for the duration of the seasonal horticultural processing season.

This condition shall apply until an approved methodology as described in condition 47 is in place.

## Sampling and Analysis

### Clause 62

Sampling and analysis shall be carried out by a IANZ registered laboratory or equivalent and procedures shall be in accordance with Standard Methods for the Examination of Water and Wastewater prepared and published jointly by:

American Public Health Association  
American Water Works Association  
Water Pollution Control Federation, twentieth or newer edition.

Note: Procedures for sieve and screen tests have been developed by the Gisborne District Council and are not registered procedures. These tests have proven very useful in determining effective operation of the existing milliscreens and are considered an effective procedure for use in this permit. Consequently, these tests can continue to be used in terms of these permit conditions.

Sample analysis results shall be provided to the consent authority within 10 days of samples being collected for micro-organism, oil and grease, suspended solids, biochemical oxygen demand, sieve and screen tests or as specifically required in conditions 49 to 61. Any non-compliant results shall be reported to the consent authority as soon as practicable after the sample analysis reveals a non-compliant result, and in any event within 24 hours.

Note: Monitoring frequency and parameters sampled may be reviewed by the WMC, taking advice from the IRP, where appropriate. In the event that the WMC considers changes to monitoring frequency and parameters sampled should be made, it may request the consent authority to consider proposed changes as part of the next review of consent conditions.

Further advice note: In the event of clarification processes being implemented, further conditions are recommended to be sought and amended by way of variation to this permit.



A R Watson

Chair of Hearings Committee comprising Commissioners Nigel Mark-Brown, Wira Gardiner, Richard Heerdegen, Pat Seymour and Alan Watson.

17 June 2009

Attachments:

Figure 1 Benthic Survey, clauses 58, 59 and 60.

Figure 2 Single BTF Monitoring Diagram, clauses 33, 35, 36, 37, 41, 42, 43, 44 and 45.