

Notice of Requirement

Banks Street Wastewater Designation

Prepared for CH2M Beca for Gisborne District Council

By Beca Carter Hollings & Ferner Ltd (Beca)

12 November 2008

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Revision History

Revision N°	Prepared By	Description	Date
A	James Low	Draft for Internal Review	12 November
B	James Low	Draft for Client Review	14 November
C	James Low	Draft for Client review – Amended site layout	21 November

Document Acceptance

Action	Name	Signed	Date
Prepared by	James Low		28 November
Reviewed by	John Duffy		28 November
Approved by	John Duffy		28 November
on behalf of	Beca Carter Hollings & Ferner Ltd		

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Form 20

Notice of Requirement for Designation Resource Management Act 1991

Sections 168A Resource Management Act 1991

To: Gisborne District Council

Gisborne District Council gives notice of a requirement for a designation for the purposes of a “wastewater treatment plant” on 1.68 ha of land described as: part of Pt Lot 8 DP 5339 and part of Lot 1 DP 5707 (31 Banks Street).

The location and extent of the proposed designation is shown below:



The site to which the requirement applies is:

- As shown in the diagram above – Pt Lot 8 DP 5339 and Lot 1 DP 5707, 31 Banks Street.

The **nature of the proposed works** is:

The construction and operation of a wastewater treatment facility including:

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

The proposed site is zoned general industrial, a zone which permits a range of uses including:

- Industries
- Warehouses
- Activities and structures ancillary to industry
- Recreational activities and structures
- Residential accommodation in association with any activity listed
- Parking areas
- Service stations and the storage and sale of liquid petroleum gas
- Meteorological activities
- Temporary activities
- Transfer stations and recycling depots.

Alternative sites, routes and methods have been considered to the following extent:

Detailed costings have been prepared comparing the existing but as yet undeveloped Gisborne airport site to the principal alternative of locating the facility at Stanley Road as shown below:

Combination of Options	WWTP Location
Defer Clarification	Aerodrome Rd
Relocate WWTP	Stanley Rd
Defer Clarification & Relocate	Stanley Rd

A number of other locations for the wastewater facility besides these primary alternatives have been considered. Their location relative to the existing outfall, where all wastewater streams currently converge, and brief assessments are given below:



Figure 1: Location of Alternative Sites

No.	Description	Distance (km)	Engineering assessment of Suitability	Comments
1	Adventure Playground	0	Suitable	Adjacent to Stanley Rd, minimal additional pumping
2	Watson Park	1	Suitable	Availability questionable
3	Motocross Park (ex Abattoir)	1.2	Not suitable	Availability questionable, cost too high
4	Syndicate Equities development	1.6	Not suitable	Already under development, Distance high
5	Behind Cedenco Retort	1.85	Marginally Suitable	Land cost high, distance high
6	DoC park, Waikanae Creek verge	1.55	Not suitable	Shape, ground conditions, proximity to residential areas
7	Tupaea St	1.15	Not suitable	Too small
8	Opposite Cedenco	1.15	Not suitable	Shape, proximity to residential areas, land value
9	Vacant Lot on Banks St	0.5	Not suitable	Too small
10	Churchill Park	0.45	Not suitable	Land valuation high, high amenity area, proximity to residential areas

These assessments and those which preceded them for the airport designation demonstrate a substantial commitment to finding the wastewater treatment option which best meets requirements for sustainability. It should be noted that Council has ownership of the site of the proposed works for which it now seek to designate.

The designation is reasonably necessary for achieving the objectives of the Gisborne District Council because:

- The proposed facility is necessary to enable the community of Gisborne (city and surrounding areas) to provide for their health and wellbeing. Wastewater treatment is required to meet conditions of consent and the relocation of the facility to Banks St will dramatically reduce costs of the project with potential social and economic flow-on effects for the wider community.

A designation will best suit the purpose of the Wastewater Treatment and Pumping facility for several reasons:

- A designation is necessary to accurately describe and secure the long-term use of the land in the District Plan. Due to uncertainties regarding requirements for any further additional treatment and re-use of treated liquids and solids and any site redevelopment requiring consent given the discretionary consent status of wastewater facilities long-term security of use is best secured by way of designation and the outline development plan process it entails.
- A designation will allow Gisborne District Council to undertake works in accordance with the designation, notwithstanding anything to the contrary in the Combined Regional Land and District Plan.
- The Outline Plan process will ensure future works on site remain consistent with the proposal as stated in this application.

A number of Resource Consents are needed for the proposed activity and several have been obtained (principally related to the wastewater outfall pipeline) already. Additional consents and/or alterations to consent that are being sought in conjunction with this application are as follows:

- **Change of conditions of consent CP205022.** This is necessary because the proposed Banks Street facility will not initially include clarification/solids removal and involves a single BTF tank-based plant loaded at 0.8kg BOD/m³/d. Solids removal will be deferred which will provide an opportunity for options for a viable use of the waste stream to be identified. Conditions of consent will bind Council to actively investigate the performance of the installed plant and these options and eventually implement one or more of the preferred options.
- Discharge to air at 31 Banks Street. A resource consent application for this is being applied for concurrent with this designation. **Consent to Discharge to air** is likely to be required as a Discretionary Activity according to Rule 26 of the Operative Air Plan.
- All other required consents have been issued by the Gisborne District Council (GDC) for the wastewater facility.

Consultation has been undertaken with parties that are likely to be affected including a telephone survey of 993 people (13-26 October 2008 by Key Research), Dedicated WWTP display at the Gisborne A&P Show (17-18 October 2008), Dedicated WWTP display at Council reception (Open days), Dedicated WWTP website page, Feedback Form available on the Gisborne District Council Website and from Council office (Feedback closed 27 October 2008), Ongoing consultation with WORG (formerly WARG), Media releases, Newspaper advertising campaign, Radio campaign (Radioworks and Radio Network). Neighbours of the proposed site have also been consulted.

.....

Signature of applicant or person authorised to sign on behalf of applicant

.....

Date

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EXECUTIVE SUMMARY

Gisborne District Council has been granted resource consents for the implementation of a new wastewater treatment facility to serve Gisborne City and surrounding communities. The consents have been issued with a term of 35 years (issued in September 2007) and allow for a two stage process for the upgrading of the treatment of domestic sewage and non-separable tradewastes. In response to escalating construction costs for the scheme as currently consented, GDC is proposing to construct the new treatment plant on a site on Banks Street in the Awapuni Industrial area, instead of Aerodrome Road. It is also proposed to decommission the existing Stanley Road pumping station site, although some largely underground components will still remain, including pipework, chambers and an air release valve and associated biofilter.

This notice of requirement under s168 of the RMA seeks to locate a BTF-based wastewater treatment plant at 31 Banks Street in the general Industrial Zone of Gisborne City. The site in question is at the end of a cul-de-sac and is adjacent the Waikanae Stream. Adjacent landowners have been consulted about the proposed designation and issues, mostly concerning odour, have been raised by some.

In general the industrial zone provides for activities like wastewater treatment plants. Bulk and location standards, noise and lighting levels and general amenity requirements of the zone predispose it to uses that may, elsewhere in the District, raise concerns for the amenity of neighbours.

Unlike many other industrial activities, wastewater treatment plants require very little trucking of raw materials as the incoming wastewater is pumped or gravitated to the site via the city wastewater network. Their product is likewise pumped from site eliminating almost all traffic movements that might otherwise accompany a permitted industrial use. Some trucking of waste products away from the site is required but this requires minimal truck movements, additionally delivery of septage from not reticulated parts of Gisborne will also be trucked to the site. Equally, noise from the site will be limited to the background hum of pumps and fans – particularly those associated with ventilation. These noises are well below the level likely to occur on a site with any significant manufacturing component, and within the allowable limits for the industrial zoning.

Accordingly, the effects of the proposed Designation are considered less than minor and subject to appropriate management of odour (the subject of a separate consent application) it is recommended that that Council recommend approval of the requirement.

1 Introduction

This report does not contain details describing origins of the need for a wastewater treatment facility in Gisborne. Readers with an interest in this are instead referred to *Gisborne City Wastewater Resource Consent and Coastal Permit Applications and Assessment of Environmental Effects*, *Opus International Consultants Limited* and *Gisborne District Council Gisborne City Wastewater Aerodrome Road/Airport Site Treatment Plant Notice of Requirement and Resource Consent Application for Discharge to Air January 2007*. Both documents and their reference materials provide a thorough history of the wastewater situation in Gisborne. The s127 RMA Change of conditions applications that has also been lodged for the proposed works contains detailed appendices that have not been included in this report.

1.1 Background

Over the past two decades Gisborne District Council (GDC) has been investigating and consulting on options and methods for upgrading its current wastewater treatment system. The current system includes a milliscreen facility at the Stanley Road Pump Station where milliscreened effluent is then discharged to the ocean via an 1800m offshore outfall pipeline. Both domestic (human) sewage and industrial wastewater (trade waste) is included in the milliscreened effluent.

Factors including tangata whenua and community aspirations for improved coastal water quality and the water quality standards in the Proposed Regional Gisborne Coastal Environment Plan and the Gisborne Wastewater Strategy have led to an upgrade initiative for improved wastewater treatment. This initiative culminated in 2007 with Council obtaining consent for a Biological Trickling Filter (BTF) – based system to be installed near the Gisborne Airport.

This application for designation of the Banks Street site is the culmination of considerable work and the investigation of numerous options available to provide a more financially sustainable wastewater management solution. The choice of Banks Street as site for the future wastewater plant reflects the considered view of WORG (the Wastewater Options Reference Group), the Council and many in the community that this location represents the best compromise between cost-effective siting, management of adverse effects and potential for future Alternative Use and Disposal of wastewater as an alternative to its being disposed to Poverty Bay.

It should be noted that Gisborne district sits relatively high on the Ministry of health's Deprivation Index. The 2006 census median total household income for the Region was \$41,000 compared to the national median of \$51,400. The median total personal income for the Gisborne Region population aged 15 years and above was \$22,600 compared to the national median of \$24,400. Affordability is therefore an important issue for Gisborne and a key reason behind this application.

1.2 The Current Situation

The Gisborne wastewater treatment operation consists of the screening and pumping untreated waste from the Stanley Road screening site located between Awapuni Road (SH 35) and Centennial Marine Drive. This site is designated for wastewater purposes. The Stanley Road plant provides milliscreening to 1 mm of all the City's domestic and industrial wastewater prior to its discharge via the outfall. The original plant, which was a comminutor and pumping station to the outfall, was commissioned in 1964 and was upgraded in 1991 with the milliscreening facility. A chlorination facility was also installed for the Millennium celebrations - however this is not currently in use.

Council has recently designated a site at the Airport where it had planned to treat wastewater before pumping to Stanley Road and then out to sea. This was considered a good option as the site was considered relatively out of the way and appropriate for such a facility. However, pumping wastewater to and from the airport site and other operational elements of the consent have been found to be too costly and other, cheaper but as-suitable options have had to be identified and considered. In addition, the airport site brought with it significant interface risks associated with the safe operation of the airport which are avoided by moving away. The designation conditions for the airport site were therefore quite onerous.

Locating a Biological Trickling Filter-based system at Banks Street is considered a better option and, in conjunction with project scope reductions, will deliver considerable cost savings. Additionally, the reduced plant scope will allow the community of Gisborne to adapt its waste treatment procedures and will minimise the potential opportunity costs of overdesigning a scheme. In this regard, the proposed (reduced scope) scheme is considered a more sustainable option than the fully-fledged airport proposal in that it replaces, and may allow the Stanley Street site and the designated airport site to be returned to alternative uses.

In total, the proposed plant will employ 1.5 FTE (Full Time Equivalent) on site. Traffic movements associated with the operation of the facility will be extremely low (considerably less than many other industrial uses).

1.3 Nature and Scope of the Designation

Gisborne District Council (GDC) is seeking to designate land upon which it intends to construct and operate a biological trickling filter based waste water plant. Specifically, Council wishes to proceed with the construction and operation of a wastewater treatment facility at 31 Banks Street and wishes to provide for the following activities:

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

In order to manage capital costs, the new WWTP will initially comprise inlet works, industrial wastewater separation, milliscreens, grit removal and outfall pumping stations along with one biological trickling filter (BTF), followed by disinfection within two years. Future work, which will be constructed as required by reviews of the performance of the plant 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 biosolids storage and treatment. Land-based disposal or use and avoiding discharge to the CMA altogether remain the ultimate goal for wastewater management in Gisborne, so other treatment processes for liquids and solids may be implemented at this site.

Construction of the new plant is likely to occur over approximately a 12 month period, with two months involving demolition of the existing buildings and earthworks on the site. The majority of heavy construction activity will occur over a period of about 9 months on the site, followed by site finishing and commissioning. Transfer pipelines and diverting existing flows to the site will require deep excavations and trench support and possible well point dewatering in places. Deep structures such as the pumpstations will require sheetpiling and dewatering to allow formation of the concrete structures. Some ground improvement may be required under the BTF, which could include stone columns or equivalent methodologies. The BTF structure will likely be formed using precast concrete panels put in place using cranes, alternatives using steel are also being considered. Pipelines and industrial separation works may precede the main works on site.

The BTF tanks will be approximately 10 metres high and 30 metres in diameter and, initially, one tank only is proposed. The height of the tanks will be extended another 5 metres by the odour covers for the tanks giving a net height of 15 metres, which is well below the maximum allowable height for this zone of 20 metres. Other plant on site will include an operations building which is unlikely to exceed 12m in height, and a single story storage facility.

As Council has ownership of the site there are no private landowners directly affected by the proposal.

2 Description of the Existing Environment

The proposed designation is to affect 1.68 Ha of land described as part of Pt Lot 8 DP 5339 and part of Lot 1 DP 5707 and is shown in the diagram below:

Figure 2: The Proposed Wastewater treatment facility site and view points

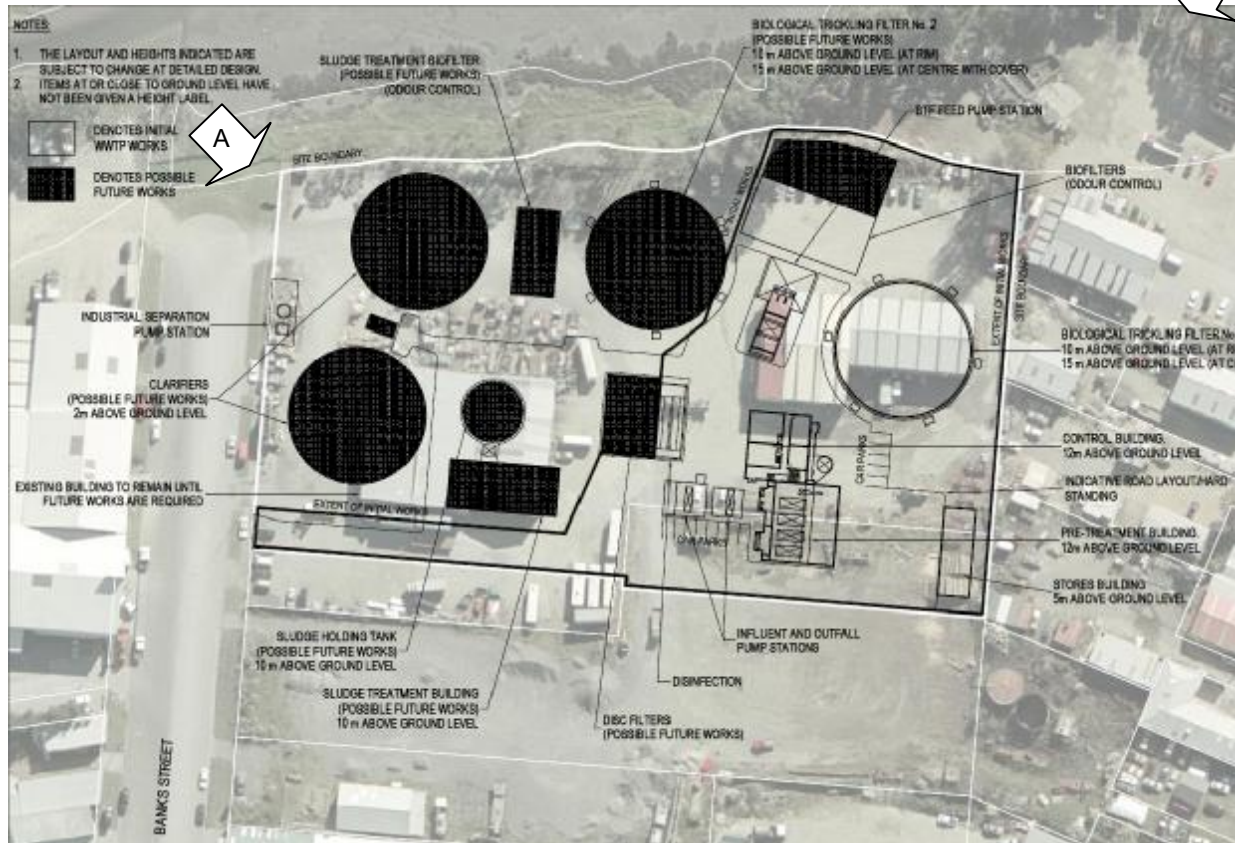


Figure 3: View of site (A)



Figure 4: View of Site (B)



2.1 Land Use

The site and land surrounding it are industrial. 31 Banks Street comprises between 1 and 2 hectares of land made up of predominantly a northern 'Truck site' block with 2 existing buildings (1.6 hectares). In addition, the southern boundary of the truck site has been modified through a land swap deal with the site to the south (the 'Concrete site') resulting in a proposed site area of about 1.68 ha.

Land within the subject site is generally flat - sloping gently towards the margin of Waikanae Creek to the north. The bed of the stream is approximately at sea level. Much of the adjoining land around buildings on the 'Truck' site is maintained as open manoeuvring space for freight trucks. Within the 'Concrete' site, piles of sand/aggregate for making ready-mix concrete define the current use.

Opposite the site "Smash Palace" is set back from the road where it enjoys a degree of pub notoriety. The adjacent stream margin appears to have moderate ecological values and being tidal is part of the coastal environment (Coastal Environment overlay).

2.2 Land form and Geotechnical Considerations

The land proposed for development as a wastewater facility is currently zoned industrial. Detailed geotechnical investigations have been undertaken and have found the land to be predominantly sand, underlain by clays. The soils are suitable for the development proposed – albeit prone to liquefaction. The land is also relatively low-lying and therefore design measures will be put in place to ensure critical plant is kept above possible flood water levels.

2.3 Traffic and Noise

The use of the area for mixing and supply of ready mix concrete and general truck manoeuvring mean at times there can be modest truck movements. Noise from the site is typical of an industrial area and comprises mechanical noise associated with heavy equipment use on site including loaders, trucks and mixers. Banks Street has a wide (30m) road reserve and good access to major roading.

2.4 Amenity

31 Banks Street is a typical industrial site. Amenity is enhanced by the presence to its North of the Waikanae Creek. The amenity reserves along Waikanae Creek do not as yet have formed public access along their length, but it is possible to walk along the strip. From the reserves on both sides views of the wastewater site will be possible. Consequently, now that the property will be Council owned should Council wish to improve the amenity of these adjacent public area there is opportunity to do so through development of the wastewater plant (e.g. planting along the

Creek/Reserve boundary)¹. A condition is recommended to enhance the Waikanae Creek boundary – in accordance with Appendices 32.1 of the Combined Regional Land Management Plan.

It should be noted also that the amenity of land at Stanley Road will have potential for significant improvement once plant there is decommissioned and that the net effect of locating to Banks Street may be an overall improvement in the District amenity.

¹ See Appendix C (Visual Assessment).

3 The Proposed Works

It is proposed to construct a Biological Trickling Filter-based wastewater treatment plant as described below:

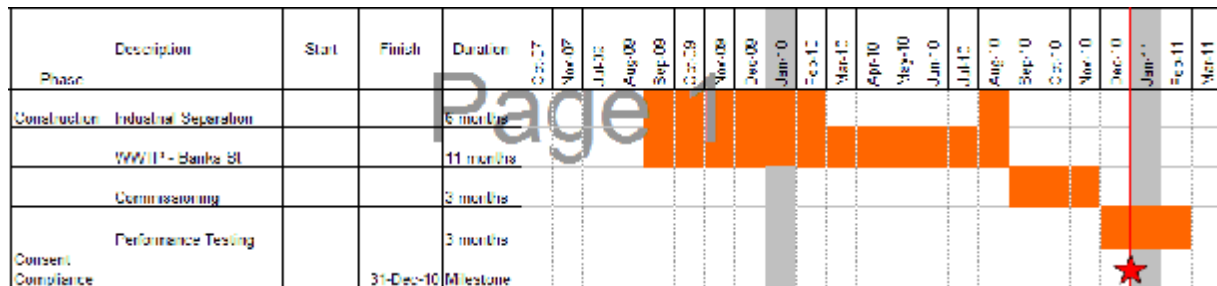
1. The facility will comprise a single (with a potential for two) large (30m diam. x 15m) covered BTF tank located within the site.
2. A pre-treatment and control building will also be located on site and this will contain screening and grit handling control and electrical equipment and this will be approximately 12m in height.
3. Odour will be controlled on site by way of treatment through bio filters. As a result it is considered unlikely that odour will be noxious or offensive. A separate AEE addresses odour discharge.
4. Within two years, disinfection will be provided on site.
5. In future clarification or other means of solids removal may be incorporated. This will include a sludge treatment facility.
6. Conveyance and pumping of wastewater within the site and pumping of effluent to the Gisborne Ocean Outfall.
7. Workshop and storage facilities.
8. Any ancillary operations / treatment processes necessary for treatment of Gisborne's wastewater, including alternative uses of treated liquid and solids streams.

3.1.1 Establishment

The works associated with construction of the treatment plant are typical of Industrial development and standard site management measures are proposed in respect of constructing the proposed works. An important advantage of the industrial site location is its general suitability for the proposed use. See section 1.3.

3.2 Construction Timing

The attached diagram provides an indication of construction timing:



4 Consultation

The issue of managing Gisborne wastewater has been in the public arena for many years. The current designation at Gisborne Airport is only two years old. Extensive consultation occurred for that facility and is not repeated here.

A summary of consultation for the revised project scope is detailed below:

COUNCIL MEETINGS

- | | |
|--------------|---|
| 24 April | Presentation of Predesign and Out turn cost \$84m - Resulted in a request for looking into options for cost savings. |
| 26 June | Presentation of shortlist of preferred options (From TM14 – Project Scope and Budget Reduction Options) including deferred clarification and Stanley Rd |
| 28 August | Presentation of further reduced scope options (From TM15 – Mapping Treatment Options for the Gisborne Wastewater Scheme) including deferred clarification and 1 No BTF at 0.8 loading rate. |
| 12 September | Feedback from WORG meetings presented by Peter H, this resulted in the approval to carry out informal consultation on the two sites (Banks St and Stanley Rd) |

WORG MEETINGS

- | | |
|-------------|--|
| 22 May | Presentation of TM 14 Options |
| 4 June | Discussion on deferred clarification and BTF loading |
| 11 June | Further discussion on deferred clarification and disinfection |
| 3 September | Presentation on TM 15 Options - including increased loading rate and deferred disinfection |
| 5 September | Follow discussion on TM 15 Options |
| November | Various meetings to discuss proposed consent conditions |

KEY INDUSTRIAL STAKEHOLDER MEETINGS

- | | |
|---------|---|
| 21 May | General Project update and preliminary results from the industrial monitoring |
| 10 July | Trade Waste monitoring and Recommended Separation Scheme |

COUNCIL WASTE MANAGEMENT COMMITTEE

- | | |
|------------|--|
| 22 May | TM 14 Options discussed |
| 24 July | Reuse options for Wastewater and Biosolids |
| 14 October | Further discussions of Biosolids options |

In October consultation culminated with a community survey and 'have a say' campaign which endorsed the choice of treatment method and location. A summary of results is available as Appendix D and more detailed material is available in appendices to the s127 application.

ADJACENT LANDOWNERS

See below for details of consultation with landowners.

4.1 Adjacent Landowners

Adjacent landowners were consulted in October and for the large part their concerns relate to odour. The table below details comments and responses to these comments.

Address	Owner / Lessee comments	Council comments
203 Stanley Rd	Owners thought position of plant and odour would devalue property. what are council doing to alleviate this?	Showed owners copies of plans of plant and explained that BTF will be covered & machine hall a sealed building. All odour from the process will be treated through biofilters. Explained operation of biofilter & showed them plans. Any property development in the area will probably be tilt slab warehouse buildings with no view to the rear.
	Are there other plants in similar situation in NZ?	Explained that Tauranga plant is in industrial area, does have some odour but is quite an old plant.
	The area is prone to flooding will the biofilters be exposed to this?	The biofilters will be above flood level. The position of biofilters at this stage is indicative only
28 - 32 Banks St	No concerns with plant, it is about time. The construction will improve the area. As council are diverting western interceptor through DOC land at rear of property could they tidy up the area?	Council can tidy the area in the DOC land beside the creek when the new pipework is laid. Showed owner plans of plant & explained operation.
205 Stanley Rd	No concerns at present, will discuss with husband & confirm, thought building tenants would be concerned.	Explained no odour with biofilters & will consult with tenant.
187 - 189 Stanley Rd	No concerns with the plant, thought it would have no effect on property values. Thought it did not make sense pumping sewage to Aerodrome road for treatment.	Explained operation & showed plant plans.
213, 213A, 215, 217 Stanley Rd	Had concerns regarding odour, will sit boundary be fenced ?	Explained operation & showed plant plans. Owners then had no concern regarding odour.
	Did not think the plant would affect property value?	
241 Stanly Rd	Concerned about odour, cited councils record with projects in the past.	Explained operation & showed plant plans
	Wanted written conformation that there would be no odour.. Sited the refuse transfer station as a site with odour problems.	Explained that details regarding odour modeling and control would be contained in the resource consent AEE. They can make submission at consent hearing.
	Wanted assurance regarding cost overruns on project.	Cost overrun unlikely as cost estimates are conservative.
	Concerns regarding property value.	Explained that property value unlikely to be affected due to the type of building that would be built on the site in the future.
205 Stanley Rd	As they are tenants they have no concerns.	Explained operation.
23 Banks St	Concerns regarding odour. Will there be any landscape planting ?	Explained operation & showed plant plans. Owners then had no concern regarding odour.
		Had no concerns regarding property value.
19, 21 Banks St	Concerns regarding odour.	Explained operation & showed plant plans. Owners then had no concern regarding odour. Had no concerns regarding property value.
20, 22 Banks St	Concerns regarding odour.	Explained operation & showed plant plans. Owners then had no concern regarding odour.
1 Solander St	Relieved that the Western interceptor would be re routed away from their site, Once that was done they could build a bigger shed.	Explained diversion of the western interceptor. Had no concerns regarding property value.

215 Stanley Rd	No concerns with plant, will discuss with business partner. Suggests council contact the building tenant for comment.	Explained operation & showed plans, owner had no concerns regarding siting or odour.
215 Stanley Rd	Does not think odour can be totally controlled. Thinks the location is not suited to the area given council plans to re zone the land north of Awapuni road. Is in agreement with the reduced scope of treatment being sought. Thinks the biofilters would be better located on the northern side of the site near the creek & away from immediate neighbours on eastern boundary of the site.	Explained operation & showed plans, discussed the operation of the biofilters in detail. The site layout on the information sheet was indicative only & it was possible that the biofilters could be located on the creek side of the site where dispersion conditions may be better the eastern side where they could be in close proximity to neighbouring buildings. Detailed information on odour control will be available in the resource consent application AEE document. If they have any further concerns they can make a submission to the consenting authorities, the submission period will be advertised.
Banks St & Stanley Rd.	Plant should not be a problem with everything enclosed	Explained the operation & showed the plans, explained how the biofilters work. Owner did not have any serious concerns.

4.2 Consultation Outcomes

Consultation has been comprehensive and has resulted in generally positive feedback toward the project. Issues related to Odour are to be mitigated through biofilters and enclosing odour sources. These are detailed in a separate AEE.

5 Assessment of Environmental Effects (AEE)

5.1 Overview of possible effects on the environment

The designation will provide for an activity that involves transformation of human waste into a form more acceptable for disposal². To achieve transformation on site, waste is piped in and applied to the biological tricking filter. Product from the biological processes is then disinfected and pumped to the outfall off site. A small amount of grit and screened wastes are captured on site and will leave by truck in a bagged state.

Construction of the facility has been discussed above and will be typical of construction activities on other industrial sites. It should, however, be noted that at this time details of construction are not precisely known and it is therefore not possible to confirm their precise nature – though it is considered unlikely that additional consents will be required.

All possible adverse effects of the activity are listed in the table below:

Effect	Assessment
Construction effects (see 4.2 below)	As outlined below, construction effects will be minor and are compatible with the landuse of the zone. Because of the proximity of the Waikanae Creek, appropriate sediments and earthworks control measures will be put in place.

² The effluent will comprise a mix of plant matter and other organic material. One of the key “parameters” of acceptability is biotransformation – i.e. the degree to which human waste matter is converted into plant material.

Vehicle movements (see 4.3 below)	The site employs approximately 1.5 FTE. Raw materials are neither trucked to or from the site with very minimal movements associated with removal of screened waste. Preliminary assessment indicates 6 VMD with 1 BTF and potentially 3 additional truck movements afterwards if further treatment processes are required.
Amenity effects	The industrial zone provides very limited amenity controls. The visual assessment concludes that while opportunities exist to enhance the environment there is no adverse visual effect of the proposal.
Odour	This is addressed in a separate AEE and will be managed to achieve BPO.
Ecological effects (see 4.5, below)	The land upon which the facility is to occur may be used for industrial purposes. Its current use enable runoff into the neighbouring waterway which is likely to have more significant adverse effects than that which is proposed.
Noise and Vibration (see 4.6, below)	Noise effects from the site have been assessed as very low and there are no known sources of vibration.
Effects on wider amenity – residential areas	The site is well buffered from adjacent residential areas. Population growth is low and there is not likely to be pressure to develop urban uses immediately adjacent to the site. The site being owned by Council may be considered an opportunity for enhancement should this be required.
Archaeological/Cultural concerns	It is considered extremely unlikely that there will be any effects as the site is already fully developed for an industrial use.

5.2 Mitigation of Construction Effects

During construction the effects on the environment will be temporary and minor and can and will be substantially managed and mitigated through appropriate conditions on the designation, appropriate working methods, contract conditions and protocols. In particular, the proximity of Waikanae Creek requires good earthworks control measures.

Construction effects may not require management but in the event that they do a condition requiring preparation of a construction management plan has been recommended.

5.3 Traffic Impacts

Access to the site is described in Appendix B. Traffic impacts will be similar to those presently experienced on site or otherwise expected for industrial uses and therefore considered a de-minimus effect. In particular it is noted that approximately 6 traffic movements (car) per day are envisaged with potentially 8 traffic movements by trucks should clarification be installed.

5.4 Amenity Effects

A detailed landscape assessment has been prepared for this proposal from which the following conclusions come:

The subject site is assessed as being suitable for such a facility in terms of the surrounding landscape and the components to be introduced, including two tanks up to 15 metres in height, future clarifier tanks at ground level, security fences, buildings up to 20 metres and filter beds. These elements are assessed as being complementary to the existing environment and within the rules noted for permitted activities in the General Industrial zone.

The Waikanae Creek is a special, if somewhat neglected environment and the scope for future walkway provisions in the amenity reserves along its margins will involve enhancement of the creek as part of a community initiative. There is the scope for Council to take a lead on the walkway initiative, by implementing a section of walkway between Banks Street and Stanley Road, for example.

In the vicinity of the site, rubbish removal from the stream bed would enhance the environment significantly and should be undertaken at the time of construction or soon after.

A conclusion is reached that this proposal fulfils Section 5 of the Resource Management Act, to promote the sustainable management of natural and physical resources.

It should be noted, however, that since preparing the abovementioned landscape assessment negotiations with the adjacent landowner have resulted in a reduction in site size. However, the proposal continues to comply with rule 19.14.4(b) (Height).

5.5 Ecological/Water Quality

The designation is unlikely to have any impacts on water quality in its construction or operation. The Visual Assessment notes opportunities for enhancement of adjacent ecosystems which the proposal may facilitate. As noted above, control of earthworks during construction will mitigate effects on the Waikanae Creek.

5.6 Noise and Vibration

Some additional noise from welding equipment, piling, excavators and trucks and other construction vehicles can be expected during the construction phase. As construction activities are generally carried out during daylight hours and having regard of the surrounding environment, noise attenuation techniques are not considered necessary.

Construction will comply with the requirements of NZS6803.

5.7 Conclusion

This brief evaluation shows the effects of the proposed designation on the environment are likely to be less than minor. A condition requiring preparation of a construction management plan is considered sufficient to mitigate potential residual effects of construction.

6 Statutory Assessment

6.1 Resource Management Act 1991

The relevant provisions of the Resource Management Act 1991 (RMA) in relation to this designation are set out below.

6.1.1 Section 168A

Section 168A provides for requiring authorities such as Gisborne District Council to serve Notices of Requirement for a designation for public works.

The effect of a designation included in a District Plan is that the Requiring Authority responsible for the work may (subject to Sections 9 and 11 to 15 of the RMA) do anything that is in accordance with the designation. In this instance it is requested that those activities include the operation and maintenance of a wastewater facility as described in 1.2 above.

In addition to providing for the use, a designation has the effect that no person may, without the prior consent of that requiring authority, do anything in relation to the land that would prevent or hinder the public work. As the land in question is already Council owned this is not a material consideration for this application.

When considering a Notice of Requirement for a designation the Territorial Authority is required, subject to Part II of the RMA to consider the effects of allowing the requirement, having particular regard to the following:

- a) *Any relevant provisions of any national policy statement, New Zealand Coastal Policy Statement, Regional Policy Statement, Proposed Regional Policy Statement, Regional Plan, Proposed Regional Plan, District Plan, or Proposed District Plan*
- b) *Whether adequate consideration has been given to alternative sites, routes, or methods of achieving the public work or project or work, if;*
 - (i) *the requiring authority does not have an interest in the land; or*
 - (ii) *it is likely that the work will have a significant adverse effect on the environment*
- c) *whether the designation is reasonably necessary for achieving the objectives of the public work or project or work for which the designation is sought,*
- d) *any other matter in order to make a decision on the requirement*

The Territorial Authority, after considering the Notice of Requirement, may decide to either:

- (i) *confirm the requirement,*
- (ii) *modify the requirement,*
- (iii) *impose conditions; or*
- (iv) *withdraw the requirement.*

The proposed wastewater treatment plant is a part of an integrated waste water management system that will have the effect of ensuring community and industrial waste is safely and cost-effectively disposed of. This system includes trade waste bylaws, a suite of consents for disposal structures and the proposed wastewater treatment and pumping facility. Alternatives to treating waste as proposed such as land disposal or doing nothing have been found to be inappropriate or too costly.

The current waste disposal scheme is not adequate and the Rununga (Turanganui A Kiwa) and others have expressed longstanding concerns that discharge quality is not good enough.

6.1.2 Discussion on Alternative Methods to Achieve Objectives

The development of a strategy for addressing Gisborne's wastewater issues has been a thorough and near-exhaustive effort. As well as considering alternative sites (see above) investigations of the scale of treatment have also been undertaken .

As mentioned above, s168a(3)(b) requires the consent authority to consider

“whether adequate consideration has been given to alternative sites, routes, or methods of undertaking the work if—

(i)the requiring authority does not have an interest in the land sufficient for undertaking the work; or ...”

Council has negotiated to purchase 31 Banks Street and is therefore considered to have sufficient interest in the land to not require assessment of alternative locations. It should, however, be noted that investigation of alternatives has been exhaustive.

6.1.3 Assessment of the Necessity of the Work

Although the need for a new WWTP for Gisborne arises primarily from requirements of the Resource Management Act there are also several Council documents and community aspirations that specifically identify the WWTP as a high priority. These include:

■ GDC Strategic Policy

The document Gisborne City Wastewater: Resource Consent and Coastal Permit Applications and Assessment of Environment Affects: 30 September 2005 which formed an earlier wastewater facility application includes Section 3: Gisborne City Wastewater Strategy pages 30 - 36. This establishes the need for the wastewater facility.

■ Proposed Coastal Plan (Water Quality Standards)

The Regional Coastal Plan has identified Management Areas which specify particular management measures and desired water quality levels for each. The upgrade of the wastewater treatment plant seeks to improve coastal water quality in keeping with these management objectives.

■ Community Expectations

A survey conducted by the National Research Bureau (NRB) in July 2000 showed that 65% of property owners connected to the City system were in favour of improved wastewater treatment and a willingness to pay, on average, \$200 per household per year.

A later Survey (Digipoll 2001) indicated a lower willingness to pay - an average of \$135 per household per year.

More recent still, Key research (October 2008) has revealed continued desire to see wastewater treated, subject to cost constraints.

■ **Tangata whenua expectations**

Tangata whenua have consistently stated an ultimate objective of eliminating the discharge of human waste (even treated) to water/the harbour/Poverty Bay but also acknowledge that any solution must be realistic and affordable. Council is committed to investigating Alternative Use and Disposal methods for treated effluent and biosolids. The WARG selected the BTF process for a number of reasons, including the position that the natural treatment process of the BTF was more acceptable to tangata whenua than other treatment processes. The rate (slow) at which the transformation occurs, the much reduced volume of bio solids produced and the expected characteristics (biomass rather than modified human waste) of these are the basis of tangata whenua support for the BTF process as being less objectionable than others.

■ **Long Term Council Community Plan**

The 2006 – 2016 Gisborne LTCCP provides approximately \$30m for construction of the new wastewater facility (at Aerodrome Road (the Airport)). Revised costings of the consented scheme now suggest that this cost, considered by some to be too high, may be nearer \$84m. However, while there remains a strong mandate (statutory and community) for improved waste management there is a concern by some people that the cost of treating waste water may be too high. Digipoll and NRB surveys bear this out, and this has been acknowledged by councillors and concerned parties. Consequently, options to reduce this cost, including relocating the site to one that is more cost-effective and deferring clarification, have been investigated, resulting in estimated cost around \$45m.

6.1.4 Assessment of Options other than a Designation

a. Do Nothing Option

For reasons explained above, doing nothing is not an option.

b. Resource Consent

Applying for resource consent for the establishment of a wastewater treatment facility at the proposed site is feasible. However, it is unlikely that resource consent would be flexible enough to permit Council to add solids removal or other processes without requiring further consent for these potential steps. Furthermore, designations are included in the District plan and are therefore more transparent than the consent alternative.

c. Designate Land for the Public Work

A designation enables the public works to be identified, described and shown in the Combined Plan. This would not be the case with a resource consent. Furthermore, provided the designation describes the activity adequately additional consent is not likely to be required for alterations to the plant – which is an important consideration having regard to the staged and adaptive nature of Gisborne's wastewater process as set out in the Resource Consent.

6.1.5 Section 171 (1)(C) Achieving GDC's Objectives

Section 171(1)(c) requires consideration as to whether the proposed designation is reasonably necessary to achieving the objectives of the requiring authority for which the designation is sought.

In broad terms GDC has set out requirements for the wastewater scheme in the Long Term Council Community Plan (LTCCP). Council has consent for a significant upgrade of the scheme – albeit in a different location and is under a strong compulsion to achieve enhanced environmental performance in respect of its community discharges into Poverty Bay. There are few if any alternatives to locating an affordable wastewater treatment plant in the City of Gisborne .

Gisborne District Council has, via the Gisborne Wastewater Strategy, committed to significant upgrade of many parts of its wastewater scheme. The proposed single BTF based wastewater plant is a cornerstone of this process.

This Notice of Requirement will enable the purpose of the Resource Management Act 1991 (RMA) to be met because the proposed Waste Water Treatment Facility (WWTP) enables the community to efficiently and effectively treat wastewaters and thereby provide for their health, safety and well-being. The facility will also address particularly strong cultural concerns about water quality. Balancing these drivers are equally significant concerns that to be sustainable the facility must be affordable.

6.2 RMA Section 5 - Purpose

6.2.1 Section 5 - Purpose

Section 5 identifies the purpose of RMA, which is to promote the sustainable management of natural and physical resources. Sustainable management is defined as:

“managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—

- (a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
- (b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
- (c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.”*

The effective and efficient disposal of wastewater is essential for the health, safety and wellbeing of the Gisborne community. The community has agreed and consent has been obtained for a wastewater solution that is not sustainable as the community cannot afford to construct or operate it. The Gisborne Wastewater Management Strategy seeks to balance the benefits of improved treatment and the risks associated with the current quality of the discharge against the affordability of any upgrade.

Once completed the proposed upgrades to the existing wastewater system will enable the disposal of human and other waste in a way that promotes sustainable use of natural and physical resources and ensures that there are no adverse effects on community health. In particular, the proposed changes to scope of the scheme (to which this requirement to relocate are related) promote a more affordable solution.

Adverse effects considered possible as a result of the project have been discussed in section 5 and are considered sufficiently minor that avoidance, remediation or mitigation beyond measures proposed in this application are unnecessary. A visual assessment (attached) provides evidence of visual amenity being adequately addressed.

6.2.2 Section 6 - Matters of National Importance

Section 6 of RMA identifies a number of matters of national importance, which must be recognised and provided for in the use and development of natural and physical resources.

- (e) *The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga”.*

A key reason for the proposed Wastewater project is improving water quality, consistent with requirements of Turanganui A Kiwa. Consultation with Maori is ongoing and their views, as reflected by WORC, have been a central driver for this project. Cultural sites are unlikely to exist in the proposal area due to its current use.

6.2.3 Section 7 - Other Matters

Section 7 of RMA requires particular regard to be had to a number of additional matters, including the following relevant provisions:

- (a) *Kaitiakitanga;*
- (aa) *The ethnic stewardship;*

With regard to Kaitiakitanga, Tangata Whenua have indicated during consultation that they are concerned about the spiritual effects of the present untreated discharge. The consented two-BTF tank process looked to address these matters and the single BTF-based approach upon which this change is based is considered to be consistent with the commitments already made.

The works proposed will not adversely affect the ability of Tangata Whenua to exercise their rights in this regard.

- (b) *The efficient use and development of natural and physical resources;*

In regard to Section 7(b) and (g) of RMA the designation has been proposed for Banks Street after careful site selection. The proposed site is relatively close to the wastewater outfall. Uniquely, the site shares a boundary with the Waikanae creek and thereby minimises any potential effects on neighbours by providing physical separation.

- (c) *The maintenance and enhancement of amenity values;*

In regard to Section 7 (c) and (f) of RMA, while there will be localised amenity effects it is likely that with design design and mitigation these will be less than minor in effect.

The Act also requires that regard be had of:

- (d) *Intrinsic values of ecosystems;*
- (e) *.....;*
- (f) *Maintenance and enhancement of the quality of the environment;*

Once completed it is expected that the treatment system will enhance the quality of the environment by releasing better quality waste into the environment. .

6.2.4 Section 8 – Treaty of Waitangi

Section 8 of the RMA requires that the principles of the Treaty of Waitangi be taken into account when considering this requirement.

The wastewater project arose out of community and, especially, cultural concern for the quality of wastewater entering Poverty Bay. The proposed designation is necessary to give effect to commitments made to improve wastewater quality. Extensive consultation and the involvement of Tangata Whenua representatives in the WORG during the development of the proposed change are therefore considered to have given effect to the Treaty partnership.

6.2.5 RMA Section 168A – Matters to be Considered

Section 168A sets out the matters that must be considered when evaluating a notice of requirement by a Territorial Authority. These include (all subject to Part 2 of the Act), national policy statements, the New Zealand coastal policy statement, a regional policy statement or proposed regional policy statement, a plan or proposed plan; and whether adequate consideration has been given to alternative sites, routes, or methods of undertaking the work if the requiring authority does not have an interest in the land sufficient for undertaking the work; and whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought; and any other matter the territorial authority considers reasonably necessary in order to make a decision on the requirement.

The section that follows briefly describes some of the more relevant of these, and should be read in conjunction with the preceding statutory assessment.

6.3 Relevant Planning Instruments

The relevant planning instruments are listed as follows:

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

While it is intended to provide for construction, maintenance and other activities associated with the operation of the upgraded wastewater treatment plant by way of the designation process, the provisions of the CRLDP provide useful guidelines and assist in providing a benchmark for assessing environmental effects and outcomes when considering the Notice of Requirement.

6.3.1 5.7.1 Part Operative Combined Regional Land and District Plan

a. Relevant zoning and overlays

The site is zoned General Industrial as shown in map u58a. This zone has the purpose of (amongst other things):

19.3 Objective (Compatibility)

- | |
|---|
| <ol style="list-style-type: none">1. Industrial activity that avoids, remedies or mitigates adverse effects on adjacent land use activity.2. Enable only those non-industrial activities that will not be adversely affected by industry or adversely affect industrial activities or adversely affect the sustainability of the city centre, to locate in the zone. |
|---|

Policies and other objectives of the zone are directed at the avoidance of incompatible uses locating within the zone and protecting natural and amenity features/values where present.

Construction, maintenance and operation of a wastewater treatment facility within the zone is considered compatible with these objectives and policies.

b. 5.7.2 Utilities Chapter Objectives and Policies

Objectives and Policies considered of key relevance in Chapter 8 – Utilities include:

Objective 8.3 (proposed under Plan Change 27)

1. To require network utilities to be designed, located, constructed, operated, maintained and upgraded in a way that:

- Avoids, remedies or mitigates adverse effects on the environment.*
- Maximises energy efficiency and efficiency in the use of natural and physical resources.*
- Promotes a safe and healthy environment.*
- Promotes a high level of amenity values.*

1. Provide for the ongoing operation, maintenance, replacement and upgrading of network utilities and for the future development and operational requirements of new network utilities.

2. Recognise that in order to achieve sustainable management given the technical and physical constraints which may be experienced by network utility operations including those associated with their scale, location, design and operation, a compromise of the natural and physical environment may occur.

3. To enable the development, maintenance and use of network utility infrastructure (including individually owned and operated systems) in a manner that avoids, as far as practicable, remedies or mitigates any adverse effects on the environment.

The proposal is considered consistent with these provisions.

c. Utility Chapter Rules

Rule 8.11.3.1 makes provision for the “installation of sewage treatment plants” as a Discretionary Activity. As a discretionary activity Council has a wide ranging discretion with respect to how it assesses the activity. A designation is considered against similarly wide criteria and both have regard of what might otherwise be permitted in the area.

As a guide, the relevant rules for permitted network utilities include the following:

8.9.1 Noise and Parking

a) Network utility activities shall be exempt from the requirements of Chapter 11-Noise where these activities occur in a rural (excluding the Rural Lifestyle Zone), industrial, port or commercial zone, provided that the best practicable option is used to ensure that noise does not exceed a reasonable level.

8.9.5 Lighting and Glare

a) All exterior lighting shall be directed away from adjacent properties and roads so that the spill of light is contained within the external boundaries of the property.

c) Activities shall not emit artificial lighting greater than:

i) 10 lux spill (horizontal and vertical) of light as measured at or within the boundary of any site zoned residential or the notional boundary of any rural dwelling;

ii) 20 lux spill (horizontal and vertical) of light as measured at or within the boundary of any property zoned commercial.

d) In industrial and reserve zones between the hours of 1800 and 2200 hrs the limits apply at the boundary of residential or rural zones directly adjoining industrial or reserve sites or 20 metres from a residential building in a rural area, and are measured in a vertical plane parallel to the relevant boundary, to a height equal to the height of the potentially affected dwellings.

e) In industrial and reserve zones between the hours of 2200 and 0700 hrs limits apply in the plane of the windows of the habitable rooms of dwellings on nearby residential properties.

It should be noted that neither light spill nor noise are likely to be significant issues for the proposed activity.

8.9.6.4 Industrial zones

a) Maximum height for utility structures: 20 metres

b) Where any site has a common boundary with or is separated from land zoned residential, rural or reserve by any road or railway, then utility structures shall not project beyond a building envelope constructed by recession planes from points 2.75 m above the boundary facing the residential, rural or reserve zoned site. The angle of such recession planes shall be determined for each site by use of the recession plane indicator.

It is anticipated structures will be well within the permitted height (amenity) standards for the zone and are unlikely to penetrate any of the yard requirements.

5.7.4 Other Relevant Objectives, Policies and Rules

Noise – Chapter 11

This chapter addresses noise and its effects on the environment. It should be noted that noise associated with the operation of the Wastewater treatment plant will be negligible and construction noise will be able to be managed in accordance with NZ Standards 6803:1999 Acoustics Construction Noise. Notwithstanding this, it is noted that 8.9.1 as referred to above requires only that BPO be applied within the Industrial zone.

Chapter 19: Industrial Zone Rules

The proposed development will meet all standards in Chapter 19. In particular, rules 19.4.4(b) requires:

b) Where any site has a common boundary with or is separated from land zoned residential, rural or reserve by any road or railway, then structures shall not project beyond a building envelope constructed by recession planes from points 2.75 m above the boundary facing the residential, rural or reserve zoned site. The angle of such recession planes shall be determined for each site by use of the recession plane indicator.

The possible second BTF plant will be 9m from the site boundary and has a height at rim of 12m. The recession plane calculator for this boundary gives a height of approximately 15m.

As the site has a single non-industrial boundary, is unlikely to have significant outside storage of materials.

It is noted that Appendices 32.1 requires a planting plan for discretionary activities and it is recommended that provision for planting the 4.5m reserve yard accompany the development outline development plan if considered necessary.

6.4 Summary

The proposed designation is consistent with Objectives, Policies and relevant rules of plans for the Gisborne District. In particular, its location within the Industrial zone and Awapuni meets planning objectives (i.e 19.3) to contain uses to appropriate zones and generally “encouraging” policy on provision of network infrastructure. The use of the zone for the purpose proposed will not create effects and as proposed is considered appropriate.

7 Conclusion

Gisborne District Council is committed to improving the quality of wastewater entering Poverty Bay. Through actions of the Gisborne Wastewater Strategy it has commenced work to clean up industrial wastes and has consented a proposed two-BTF-based wastewater treatment scheme at Aerodrome Road. The current consent is considered unaffordable and Council has therefore looked extensively at alternative options – including revised sites and treatment processes. Through the WORC, Council has now agreed on a revised treatment process that remains true to its earlier wastewater treatment commitments but is considerably more affordable.

The proposed new plant is to be located at Banks Street and as a consequence a designation is now required for the wastewater landuse there. The net effect of this designation will be facilitating a wastewater treatment plant that is considerably more sustainable than that which was initially consented.

The proposed facility is to be constructed almost immediately and as described in this application. It is considered appropriate that Council recommend approval of the application and annotate its District Plan as outlined below.

It should be noted that the effects of odour arising from the proposed activity are addressed separately in an Air Discharge AEE.

7.1 Proposed Conditions

It is recommended that a condition be imposed requiring the preparation of a construction management plan to address (amongst other things):

- Traffic management ; and
- Management of Construction Noise
- Sediment and dust control.

A plan for landscape planting shall be prepared in accordance with Appendices 32.1 of the Gisborne Combined Regional Land and District Plan. The plan shall detail planting of the yard adjoining the Waikanae Creek and shall accompany the proposal outline development plan.

7.2 Suggested District Plan entry (Appendix 10)

Requiring Authority	Purpose	Legal Description	Location	Restrictions / Comments
Gisborne District Council	The screening of solids and grit from domestic and industrial wastewater and their removal from site, The construction and operation of biological trickling filters (BTF tanks) and associated plant, The operation of a disinfection plant,	Part of Pt Lot 8 DP 5339 and part of Lot 1 DP 5707 (1.68 ha)	31 Banks Street	The designation provides for an additional BTF tank (total of two), future solids removal or wastewater re-use as required, storage, as well as routine maintenance and

	<p>The removal and processing of solids arising from biological processes in the BTF plant,</p> <p>The conveyance and pumping of wastewater on the site and effluent to the Gisborne Ocean Outfall, and</p> <p>Any ancillary operations necessary for treatment of Gisborne's wastewater including for reuse of liquid and solids waste.</p>			<p>upkeep of the facility.</p>
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Appendix A

Noise

File Note

By:	Marie Utting	Date:	5 September 2008
Subject:	Noise Review	Our Ref:	6514820/TAA

Banks St WWTP

The Banks St WWTP site is located centrally within the Gisborne Awapuni Industrial area, with the Waikanae Creek on the Northern border and industrial sites on the remaining borders. The treatment plant site is designated for Industrial use in the Gisborne District Plan with the creek to the north designated as amenity reserve.

Table 1 below gives the lowest noise levels that must be achieved at the surrounding property zones, as given in the GDC Combined Regional Land & District Plan.

Table 1

Combined Regional Land & District Plan Noise Requirements

Zone	Average Maximum Noise Level (day) <u>(dBA)</u>	Average Maximum Noise Level (night), <u>(dBA)</u>	Distance from noise source (m)
Residential	55	45	280
Industrial	75	75	-
Reserves adjacent to Industrial	75	75	40

It has been assumed that the noise level applying to the nearest residential lots is that for residential properties adjacent to main roads or industrial areas. The alternative minimum level that must be met is 40dBA.

Sources of noise from the BTF WWTP are expected to come from the following principal components:

- Blowers for the BTF aeration system
- Influent, Recirculation and Outfall pumps
- Wastewater Screens
- Vehicle movements (trucks and light vehicle movements)
- General maintenance activities

The pumps will be in submersible style arrangements housed in below ground concrete chambers, and are therefore not expected to cause significant residual noise. The screens will also be housed inside their own noise enclosures and within the main building, and therefore noise break out from these will be minor.

The most significant noise is expected to be produced by the blowers, and therefore any potential issues regarding noise should be based on their noise levels and location around the BTFs. Each blower unit will be provided with a noise enclosure designed to ensure safe working levels are met. All noise insulation will be designed to ensure the average noise level on the site does not exceed 70dBA.

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File Note

The river is the closest public area that would potentially be effected by noise originating from the treatment plant, with the nearest residential property being around 280m away. Due to site safety requirements, the background noise levels at the treatment plant site are likely to be limited to a base level of 70dBA as a maximum average noise level.

It can be seen from the above table that by meeting safe noise levels for working on the treatment plant site (70dBA), the noise requirements for both the industrial zone and adjacent reserve will be met (75dBA).

Preliminary calculations have been completed to asses the likely noise levels at zone boundaries. Table 2 below gives indicative noise levels at the reserve boundary adjacent to the WWTP site and the nearest residential properties to the north of the site.

Table 2

Indicative noise levels at zone boundaries

Zone	Noise Limit (dBA)	Expected Noise from WWTP at boundary (dBA)
Reserve	75	57
Residential	45	36

The indicative noise levels originating from the treatment plant are well within the requirements of the Gisborne District Plan.

Conclusions

If noise levels on site are kept to a safe working level of 70dBA average maximum, the district plan noise requirements for the adjacent industrial and reserve zones will be achieved.

The nearest residential property is around 280m from the treatment plant site, however calculations estimate noise levels to be 36dBA by this point, within the required limits.

Safe working noise levels on site will be achieved through either noise enclosures or equipment being housed within buildings, to a minimum of 70 dBA.

Appendix B

Site Access

File Note	
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Site Access and Vehicle Movements

Vehicle site access will be via Banks St, from one of 2 existing entrance ways. The primary access point will be from the southern entrance, however maintenance vehicles and disposal trucks may use the northern entrance at times.

The site is located within the Awapuni Industrial area and is expected to be a 24hr operational facility, however normal operation will only likely result in vehicle movements between 6am and 6pm. Access may be required outside these hours, however this will not be part of normal operations but could be the result of an emergency or failure at the plant.

Vehicle movements will include several operational vehicles for plant operators, laboratory staff and maintenance contractors and are expected to total up to 6 vehicles per day. Following completion of the initial reduced scope works (Pre-treatment and 1 No. BTF) there will also be around 1-2 heavy vehicle movements per day for the removal of screenings skips and septage delivery. This may increase to 2-3 movements per day on completion of future stages should clarification be installed bringing additional biosolids removal requirements. Heavy vehicle movements will only occur between the hours of 6am and 6pm. The current septage delivery occurring at Stanley Rd screening site will be relocated to the Banks St site. This will significantly reduce vehicle movements at the Stanley Rd site, with only minor operational and maintenance works occurring on site on a very infrequent basis.

Currently a trucking company operates from the site and there are understood to be several heavy vehicle movements per day. It is expected that on completion of the treatment plant, the daily vehicle movements will be reduced from those currently occurring. The Awapuni industrial area has a significant amount of heavy traffic movements every day, particularly during the peak summer season. Activities occurring at the treatment plant are not expected to affect the capacity of local or surrounding roads.

Parking will be provided for all vehicles associated with the treatment plant site, along with some allowance for buses and other vehicles associated with school group visits.

Maria Utting

Appendix C

Visual Assessment

Appendix D

Summary of Survey Results



This is what the proposed treatment plant could look like if sited at Banks Street in the Industrial subdivision. Artist's impression only

Banks Street, in the Industrial subdivision

\$45M cost includes cost of land

\$88/year extra for city ratepayers
this is on top of the \$562 city ratepayers will be paying for total wastewater charges in 2018/19

\$4.27M annual operating cost
includes depreciation and interest

Advantages

- Costs less than Aerodrome Road.
- Treatment plant away from the beach and sited within existing industrial area.
- Site is less controversial than the Stanley Road site by the beach.
- Closer to industry for separation and potential users of treated wastewater
- Stanley Road miscellaneous and outfall pump station would be removed and placed at the industrial site. All that would remain at Stanley Road would be a few manhole covers and an air valve with backflow preventers.
- Opens up Stanley Road site for further recreational options.

Disadvantages

- Costs more than Stanley Road.
- Variations to resource consents will be required whichever option is chosen.

Council can choose to build the new wastewater treatment plant on one of three sites – the consented Aerodrome Road site, the existing Stanley Road site or the newly purchased Banks Street site within the industrial subdivision.

Which option do you support?

What's happening?

Gisborne District Council is pursuing a "reduced scope" wastewater treatment scheme, which is more affordable than the original, fully consented \$84M scheme. This reduced scope scheme includes industrial separation and one biological trickling filter tank instead of two as originally planned. It involves deferring the planned secondary clarification and disinfection processes. Now Council needs to decide where to build the treatment plant.

Following the purchase of a site in Banks Street, in the Industrial subdivision, Council now has a choice of three sites. It prefers the Banks Street site because it is more affordable and is sited away from the beach and other prime recreation areas. But Council genuinely wants to know your views before making a final decision.



Where is the proposed site?

Figure 5: The "Have a say" fact sheet cover page

Preferred sites were polled:

Banks Street (30%)

The main reasons for preferring Banks Street are Away from beach/pool/parks (53%) and Better / industrial area (54%)

Aerodrome Road (26%)

The main reasons for preferring Aerodrome Road are Away from beach/pool/parks (72%) and Out of town / away from residential areas (30%).

Stanley Road (11%)

The main reasons for preferring Stanley Road are Cheapest (39%) and Site already has facilities (29%).

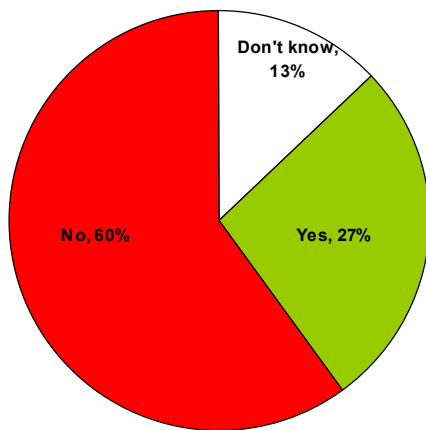
Do not support any option (15%)

The main reason for not supporting any option are: Opposed to other location/s (34%), Environmental concerns (24%) and Don't know enough to say (23%).

Two-thirds of the community (67%) have a preference for at one of the site options.

Satisfaction with the current system was polled:

Are you satisfied with the current wastewater system:



When asked why you prefer Banks Street as a site for the wastewater facility a majority of people appeared to favour this location for the following reasons:



