



Masterton District Council

Homebush Waste Water Treatment Plant

Expressions of Interest

for the use of

Treated Effluent for Irrigation Purposes

3 June 2009



Quality Assurance Schedule			
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1. INTRODUCTION

The Masterton District Council (MDC) recently secured resource consents for its Homebush Wastewater Treatment Plant (WWTP) upgrade and discharges. To further minimise discharges of treated effluent to the Ruamahanga River, MDC is looking at options to increase its use for irrigation purposes. That is, discharge to land. This document invites expressions of interest from property holders wishing to use treated effluent for irrigation purposes, or to lease sections of the Homebush site for approved farming purposes.

1.1 OBJECTIVES

The overall objective of the WWTP upgrade project is “To provide a sustainable long-term solution for the treatment and disposal of Masterton's wastewater”.

Social and cultural objectives are for the WWTP to be robust and reliable; to recognise Maori cultural values with respect to water bodies; to ensure the ongoing amenity and recreational value of Ruamahanga River; to minimise the risk to public health; and for the project to have support from the Masterton and other affected communities.

Environmental objectives are to meet Regional Freshwater Plan requirements for the Wellington Region, and to limit the impact of groundwater and surface water on the environment for the benefit of current and future generations.

The economic objective is to make the project cost effective and affordable for the Masterton Community.

1.2 BACKGROUND

The existing WWTP is located off Te Whiti Road adjacent to the Ruamahanga River, approximately 1 km upstream of Wardells Bridge, and 5 km southeast of the Masterton urban area, as shown in Figure 1.

The Homebush site has been the location of an effluent treatment facility since 1900 when the first municipal septic tanks were constructed. The present WWTP, comprising two primary ponds and one secondary pond, was constructed and commissioned in 1970-71. The treated effluent is currently continually discharged via the Makoura Stream into the Ruamahanga River.

The treatment plant upgrade involves constructing new clay lined ponds on the 91 ha site directly to the northwest of the existing ponds, decommissioning the existing ponds and developing a land treatment scheme on the remainder of the 91 ha site. MDC has purchased a further 107 hectares of land as a potential future treatment area. This will be partially



developed for land treatment, with the balance of the site being available for the irrigation of treated effluent in the event that future industrial or population growth exceeds forecasts. The aim is to eliminate river discharges when the receiving environment is most sensitive, and thereby largely avoid adverse effects on the river.

Figure 2 shows the layout of the upgraded treatment and disposal scheme, while Figure 3 is a schematic view of the proposed treatment and disposal process.

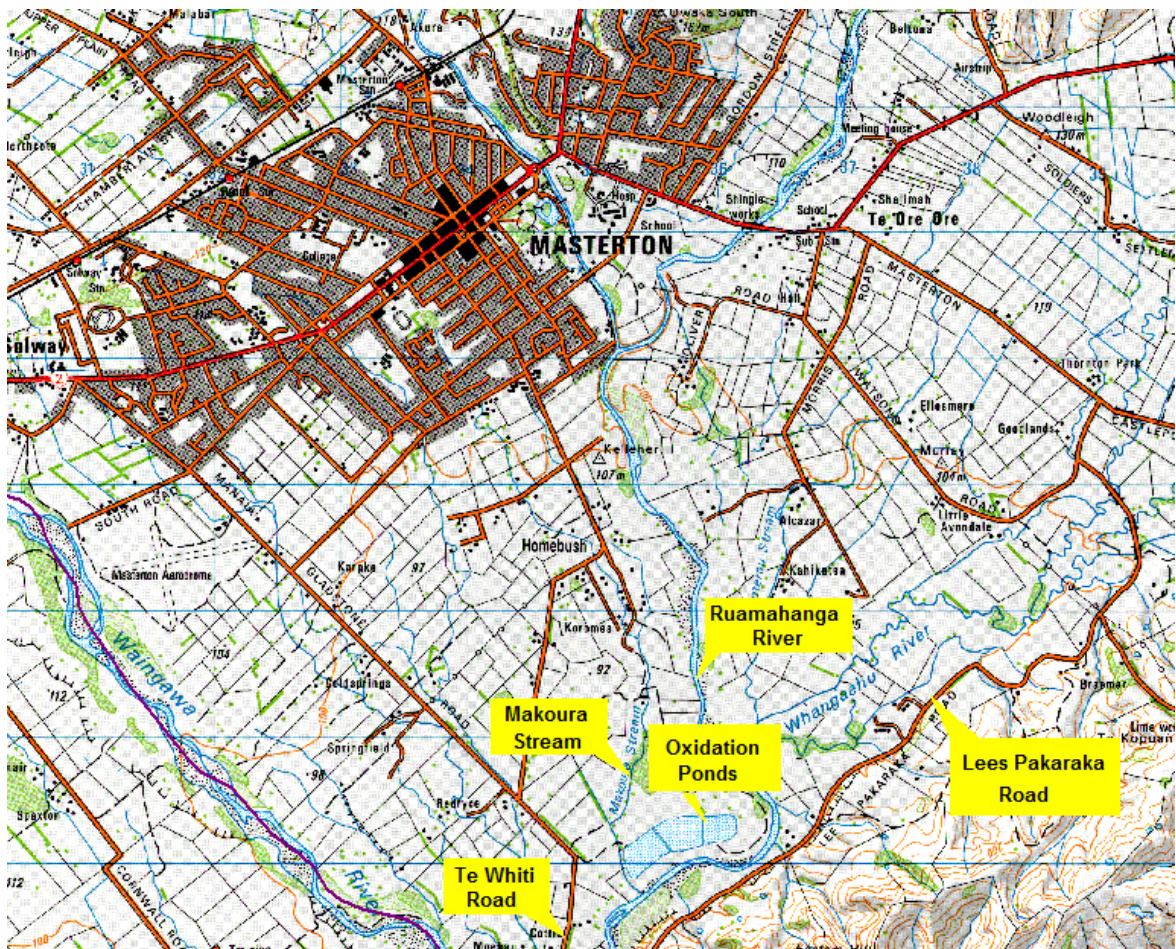


Figure 1: Location of Masterton WWTP

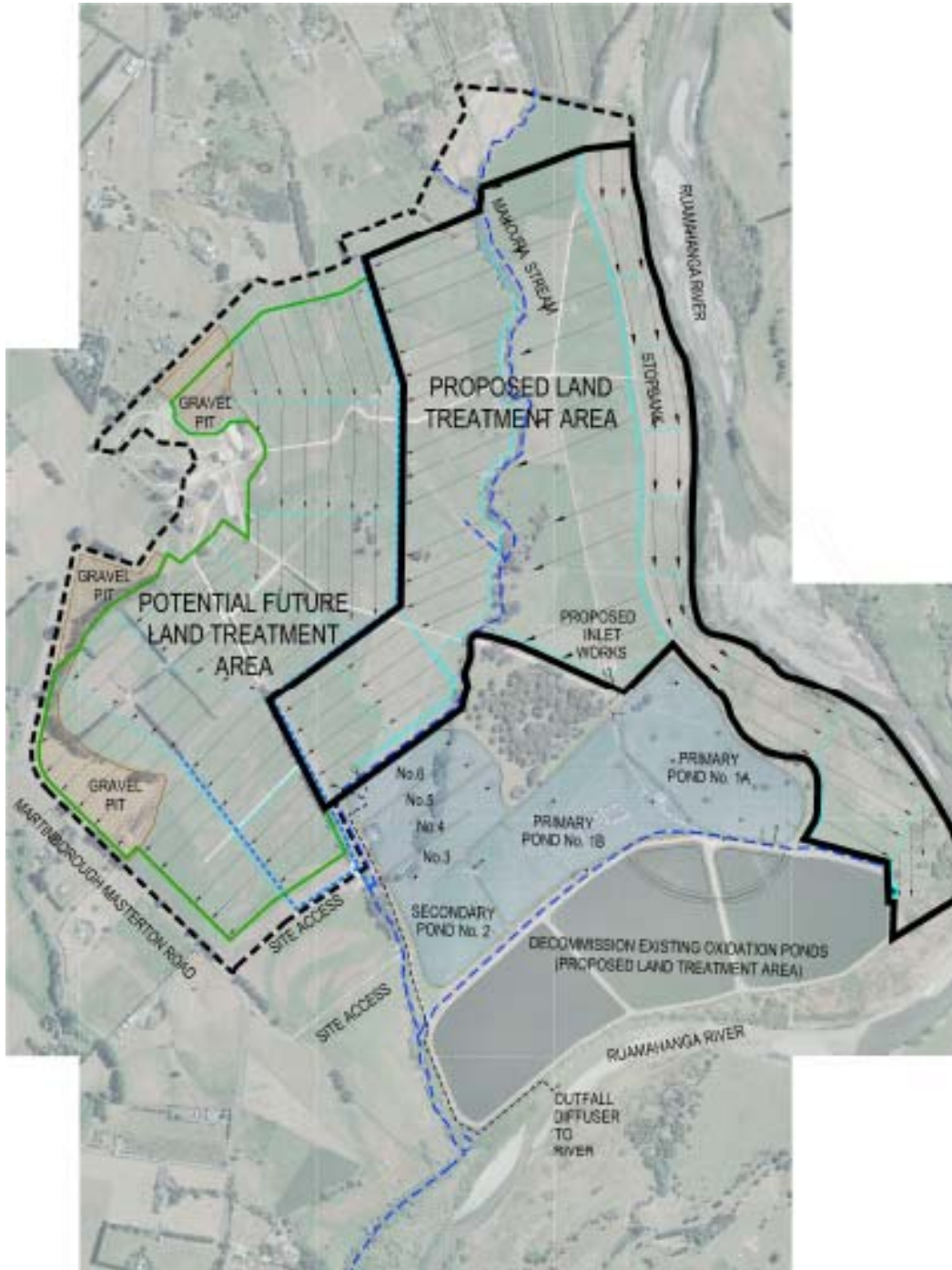


Figure 2: Layout of the Upgraded Treatment and Disposal Scheme

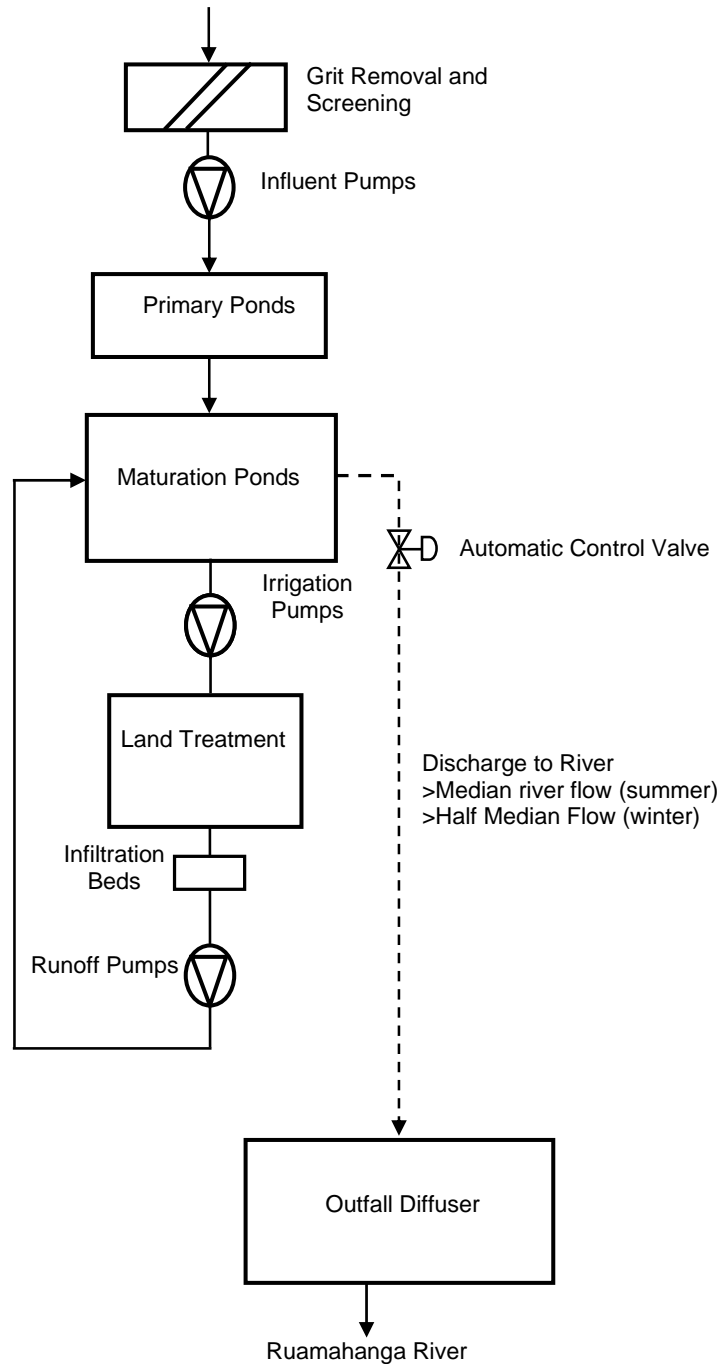


Figure 3: Schematic View of the Proposed Masterton Wastewater Treatment Plant Upgrade



2. OBJECTIVES FOR THE SUPPLY OF TREATED EFFLUENT FOR IRRIGATION

The treatment plant upgrade allows for third-party use of the treated effluent and has sufficient capacity to cater for maximum flows without there being operational or environmental consequences in the event of commercial arrangements failing, or the imposition of uneconomic constraints on the use of the treated effluent. This third-party use, combined with ongoing network improvements, will over time further reduce the volume of river discharges.

The prime objectives of the proposed scheme are to maximise the volumes of treated effluent that can be irrigated to land thereby minimising discharges to the Ruamahanga River, and to provide an alternative source of water for irrigation for land holders in the surrounding area.

The detailed design of the WWTP upgrade will identify the exact point of supply of treated effluent, however for the purposes of submitting an expression of interest, this will be located at the outlet (left hand end) of the maturation pond, labelled No. 6 shown on Figure 2. Confirmation of target supply volumes will be advised once negotiations with interested parties are complete, and the detailed design sufficiently advanced so as to provide a reasonable degree of certainty as to available volumes.

3. COUNCIL POLICIES

MDC considers the treated effluent as a resource that can be used for irrigation purposes, is committed to exploring zero discharge options, and remains open to requests for access to the treated effluent for off site disposal. A policy framework has been developed and is outlined in the Council's resolution of November 2008. This is:

That the Council authorises officers to proceed with any commercial negotiations regarding the wastewater resource based on the following policy outline:

- 1. Cost of Resource: no initial cost proposed as an incentive to take resource.*
- 2. Future Cost: reserve right to review the charges.*
- 3. Operating costs: to be passed onto user at cost.*
- 4. Priority of Use: initially first come first served, with Council reserving the right to take a strategic review.*
- 5. Promotion: Council to call for expressions of interest, but not provide funding.*
- 6. Lease costs of public land: to match equivalent farm lease income.*
- 7. Land treatment capacity: initially first come first serve, with Council reserving the right to take a strategic review.*
- 8. Impact on treatment costs: no initial cost passed onto users, but right to review.*



Parties submitting expressions of interest should familiarise themselves with the above policy outline and its implications.

Further information can be obtained from MDC's Manager Assets & Operations, Mr David Hopman.

4. TREATED EFFLUENT QUALITY AND SUPPLY

4.1 TREATED EFFLUENT QUALITY

The expected treated effluent quality data are as outlined in Table 1: Expected Effluent Quality, below. The proposed treatment plant upgrade is primarily targeted at achieving significant reductions in faecal bacteria levels, as well as reducing ammonia-nitrogen concentrations during the summer months.

Table 1: Expected Effluent Quality

Parameter	Geometric Mean	Percentile compliance standard
BOD5 (g/m ³)	21	42 90%ile
Filtered BOD (g/m ³)	10	28 90%ile
Suspended solids (g/m ³)	32	91 90%ile
Dissolved reactive phosphorus (g/m ³)	3.0	4.0 90%ile
Total Nitrogen (g/m ³)	13	20 90%ile
Nitrate Nitrogen (g/m ³)	1.0	7.5 90%ile
Nitrite Nitrogen (g/m ³)	0.5	2.0 90%ile
Ammonia-Nitrogen (g/m ³)	2.0 (summer) 6.0 (winter)	11 90%ile 11 90%ile
E.coli (cfu/100 mL)	300 (summer)	330 median 1800 95%ile
E.coli (cfu/100 mL)	1,000 (winter)	1,000 median
Metals		ANZECC (2000)
TPH, PAHs, SVOCs, VOCs		ANZECC (2000)



Resource consent conditions are available on request.

4.2 SCOPE OF SUPPLY OF TREATED EFFLUENT

The basis for use of treated effluent is that:

- MDC will be responsible for the operation and management of the WWTP, the associated irrigation operation on MDC land, and compliance with all the associated resource consent conditions.
- Third-party users will be responsible for the operation and management of their irrigation systems, including applying for and obtaining all required resource consents, and for ongoing compliance when using treated effluent for irrigation on their land.

Referring to the policy outline above, 3. *Operating costs: to be passed on to user at cost*, these will be determined once the scheme is commissioned or near to, and will be a two stage calculation, with the cost per unit volume supplied dependant on the effluent standard.

The operating costs for “*standard grade*” effluent will be based on the cost of getting treated effluent to the point of supply. Covered under this cost will be electricity for pumps, a charge for pump maintenance, and a depreciation charge for the relevant items of infrastructure.

The operating costs for “*special grade*” effluent will be as above, plus the costs for electricity to operate any items of plant that third-party users wish to install to improve the standard of treatment. **Note: The capital costs for purchase, installation and operation of any items of additional plant shall be the responsibility of third-party users.**

Third-party users shall indemnify MDC against any claims arising from use of treated effluent for irrigation purposes, or through lease of the Council land on which treated effluent is disposed, provided MDC follows guidelines laid down for the operation of the WWTP and it complies with the conditions of the Resource Consent.

The maximum flow rate, volumetric takes and availability of supply are not anticipated to impose any limitations on third-party use. However, MDC does not guarantee the continuity of supply of treated effluent.

The additional land treatment area MDC has available for lease is shown on figure 2 as “potential future land treatment area”, and is designated for treated effluent irrigation. Soil testing data is available on request. The lease rate per hectare is yet to be determined, but will be based on current market rates for irrigable land.



Construction of the proposed upgrade is scheduled to start in July 2010, and treated effluent for irrigation purposes is anticipated to be available in July 2011.

5. EXPRESSIONS OF INTEREST

MDC requests parties interested in being supplied with treated effluent, or in leasing the identified section of land, to complete the attached Expression of Interest form attached to this document.

Note: Expression's of Interest are required to be submitted to MDC's Manager Assets & Operations on or before 26 June 2009.

Discussions will be held with each of the parties submitting an expression of interest to determine their specific requirements, and to advise on the terms and conditions of supply. The intent is to enter into agreements for treated effluent supply and/or the lease of the identified section of land.

Note: MDC reserves the right to:

- 1. Determine which, if any proposals will be progressed to form agreements.**
- 2. Develop a "Supply of Treated Effluent for Irrigation Purposes Agreement" with terms and conditions as it, MDC deems appropriate. Legal advice will be taken in the development of this agreement.**



EXPRESSION OF INTEREST FORM

Full Name		
Contact Address		
Contact Phone Number		
E-Mail Address		
Resource Required	Irrigation Water	Land Lease
Proposed Irrigation Area/Land Location		
Irrigation Method/Purposes		
Expected Irrigation Volume/Rates/Duration		
Additional Treatment Requirements		
Other Requirements		