



TOI TE ORA PUBLIC HEALTH

Bay of Plenty + Lakes Districts



Toi Te Ora Public Health
PO Box 2120
TAURANGA 3140

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Bay of Plenty Regional Council
PO Box 364
WHAKATANE 3158
oset@boprc.govt.nz

Draft Plan Change 14 (On-site Effluent Treatment – OSET)

Introduction

Toi Te Ora Public Health (Toi Te Ora) is the Public Health Unit for Bay of Plenty and Lakes District Health Boards. The key role of Toi Te Ora is to promote, protect and improve population health, prevent ill health and minimise the risk of disease and injury through population based interventions.

Toi Te Ora Public Health is committed to working collaboratively with Council, and welcomes this opportunity to comment on Draft Plan Change 14 (On-site Effluent Treatment – OSET) which manages the safe treatment and disposal of domestic wastewater.

Along with the provision of clean drinking-water, the safe treatment and disposal of sewage has been one of the most important measures for improving public health.

Human faeces can contain pathogens capable of causing illness/disease eg campylobacter, salmonella, giardia and norovirus. Many of these are still infectious, even when sewage has been in the external environment for some time. Therefore the safe treatment and disposal of wastewater is necessary for controlling disease and for protecting the environment.

The intent of this plan change is supported, especially the intent that OSET systems meet relevant New Zealand Standards and wastewater discharges do not contaminate the environment and therefore protect the public.

OSET section forward – top of page 4

We support the purpose of this section to manage the effects of discharges from on-site effluent treatment (OSET) systems and reduce the risk to human health. The primary purpose for treating and disposing sewage is to protect human health. To reduce the risk of harm may not safeguard the health to an acceptable level. For these reasons the effective management of discharges from OSET systems need to protect, and where necessary improve public health from the risks posed by an environment contaminated with sewage.

You will be aware that Bay of Plenty Regional Council is consulting on proposed plan change 13 (air quality). At the time of writing a proposed consequential change to the Operative Bay of Plenty Regional Natural Resources Plan is to make an amendment to the plan's purpose. One of the aims is to *protect sensitive receiving environments* and the proposal is to add the words '*including human health*'. This gives credence that environments receiving onsite effluent should protect human health and not simply reduce the risk of harm to human health.

It is recommended that the purpose of the OSET section is to manage the effects of individual onsite systems and the cumulative effect from communities not serviced by a centralised scheme, is to *protect human health*.

OSET P1 – Risks of on-site effluent treatment systems

Recognising that discharges can present a risk to human health is important and the list of issues is noted. Another risk is when the community changes significantly and OSET systems are no longer appropriate. For instance a single house that was once isolated and is now part of a cluster or community of houses.

We wish to see an additional risk included that recognises OSET systems may not be the best sanitary sewage system for the protection of health when circumstances change.

By this we mean an OSET system either individually or collectively do not;

- separate people from their waste
- treat the sewage to the highest quality practicable
- manage sewage by-products and their end products in a safe way or
- minimise system failure through siting, design, operation and maintenance.

It is recommended that the plan recognises that discharges from OSET systems the risk to the environment and human health when an OSET system approach does not fit current situation due to changing circumstance.

OSET P2 – Communities to be reticulated and OSET P3 – Require consents in high risk situations

The approach to manage OSET systems which pose a high risk to the environment by requiring resource consent is supported. Taking a proactive approach to ensure an OSET system will be effective- fit for purpose or fit for the situation, is central to the protection of public health.

We support OSET P2(e)(iv) that identifies drinking-water supply bores and springs as a high risk criteria. It is important that all drinking-water supply sources are also considered when managing risk from OSET systems. For instance, groundwater and surface water including springs, streams and lakes. It is therefore recommended that policy PSET P2(e)(iv) and any other reference which refers to a source type(s) be reworded to refer to 'drinking-water sources'.

The criteria listed in (a) to (c) of OSETP3 are supported as these take into account issues which present a risk to human health from OSET system discharges discussed above in point 1.

Lot size is a criterion for considering a situation is suitable or not to dispose wastewater onsite safely. OSET P3(a)(i) suggests lots less than 1200m² are a risk. It is suggested that the plan explains why a lot less than this size is considered a risk.

We would like to see OSET systems used only for isolated remote dwellings where the population density is extremely low to almost non-existent. A site of 1200m² should not automatically be considered isolated. Please refer to our comment below under *unreticulated communities and unreticulated areas of the region*.

To our understanding lot size historically is based on an assumption that site will have sufficient land to accommodate the wastewater disposal/application and reserve areas. However, sufficient land is greatly dependent on land use and design. For instance the amount of building and impervious surface coverage, areas used for lawns and garden for recreation and growing food and areas reserved for discharge and not used for contact recreation by property residents. These aspects need to be taken into consideration when deciding whether a lot is suitable for disposing wastewater onsite.

OSET P4 – Management of development in unreticulated communities

The intent to manage development by ensuring OSET systems are fit for purpose long term and subsequently pose a low risk to the environment and human health is supported. We recognise that no sewage system entirely protects public health which is why distancing people as much as possible from sewage is a prime public health measure.

Before development (individual or multiple expansions) happens a question needs to be asked whether an OSET system is the acceptable sanitary service solution for the situation. From our perspective, OSET systems are acceptable only:

- a) when a connection to/or the establishment of a reticulated sewerage system is not an option now or in the long term, and
- b) in 'remote' and isolated dwellings and
- c) provided they are properly maintained and operated.

The only exception would be in emergency situations when on-site sewage systems in towns/cities or less remote areas are the only available option to provide sanitary facilities.

For this reason, OSET systems are not suitable for growing communities and development needs to be serviced from the outset with reticulated services. In the Bay of Plenty there should be no community unreticulated in the entire Tauranga City district and only a few in other locations in the Bay of Plenty.

It is recommended that the plan change ensures that development serviced by OSET systems in unreticulated areas is deterred and only occurs when conditions (a), (b) and (c) above are met.

Unreticulated communities and unreticulated areas of the region

It is our understanding that properties in the range of 2-4 hectares have been used by local authorities to define a rural property. We also understand that the lot size outlined in this plan is usually how local authority determine when a property will or will not be serviced by a municipal sanitary sewerage scheme. Bearing this in mind, a lot size just over a quarter acre is far too small especially when there could be other sites discharging effluent onsite. Council is fully aware that we have experienced difficulties in communities where OSET systems have been used on similar sized sites and the collective impact many systems in a locality. We do not wish to see this perpetuated in our area and repeated of our view.

OSET systems are only acceptable in isolated or remote communities where there is no practical alternative.

There are two aspects to consider when OSET systems may or may not be appropriate. The first is the whether a property is sufficiently large enough to manage the discharge on site well and with sufficient buffer to other properties to protect the occupants and their living environment should the systems fail. The other is the location of the property in relation to other properties that are serviced by OSET systems. When managing development in unreticulated communities, deciding whether OSET systems should be allowed or not, both need to be taken into consideration, not only the section size.

To avoid a repeat of the problems we are currently dealing with it seems undesirable to have unserviced development on the fringes of our towns and in pockets within them.

The plan needs to take into consideration the longer term view into account to protect both public health and environment, as we do not wish to replicate the problems of Matata, Te Puna Village, Maketu, Matapihi, Pukehina, Lake Tarawera, Rotoma and Rotoiti, Te Puna West and Ongare Point that only reticulation has or will solve.

Therefore, we would like the plan to include policy and rules which achieve the following:

- Prevent the installation of new OSET system (excluding upgrades) located within the boundary of a City Council because properties in a city are not remote or isolated.
- Limit OSET systems in one area by managing the proximity to other OSET systems
- Prevent an increase of OSET systems in areas that are already known to be areas of concern.
- Identifying areas that are not physically suitable for OSET systems and prohibit new systems to be located in these areas;
- Identify areas in the region that are sensitive to environmental contamination, including humans where reticulation is preferred and OSET systems are approved at the discretion of the regional council. For example locations used for recreational water activities and food gathering.

OSET P5 – Discharges from on-site systems

The environment should protect and not harm health. On this basis we support policy 5 and particularly (a)(ii) which protects people and communities from the health risks posed by wastewater.

Wastewater may contain biological, chemical and radiological substances that may present a hazard to human health. It is important that flexibility is maintained when avoiding or mitigating adverse effects on the environment and human health that this policy does not restrict the ability to manage all adverse effects from discharges from on-site systems.

It is recommended that policy 5(a)(ii) be amended by

- removing the current reference to the risks presented by ‘faecal matter and toxins’ be deleted, or
- inserting the words ‘biological, chemical and radiological substances.’

I also suggest that policy 5(b)(vi) is amended to be consistent with 5(a)(ii) and a system ‘avoids adverse effects on human health from contact with wastewater discharges containing biological, chemical and radiological hazards.’

OSET Policy 6 – Design and maintenance of new and replacement OSET systems

Policy P6 refers to building coverage and proximity to surface water. It is suggested the plan includes the minimum percentage of building coverage, the minimum proximity to a boundary to protect neighbouring residents from the effects of the discharge?

I note policy P6(d) seeks an appropriately sized reserve area for septic tanks. How will the disposal field and the reserve area be kept aside by occupants and not covered or used inappropriately such as food crops or storing heavy equipment?

OSET P7 – Term of resource consent and OSET P8 – Decline resource consent applications for OSET systems.

We agree with the rationale provided and support Policy 7 to require a maximum 10 year resource consent period. Ensuring an OSET system continues to effectively protect public health is important as is identifying systems that are compromised operationally within a reasonable timeframe.

Where there is a high risk to the environment and human health preventing OSET systems from being used in the first place will be protective of health.

For this reason we support this policy, however would like to see the approach go one step further. It is recommended the policy includes declining resource consent applications where the proposed discharge is ‘likely’ to create a public health hazard rather than ‘will’ create. Protecting the environment from contamination by addressing high risk situations is a necessity for current and future populations, and will improve the sustainability of the natural environment will protect public health long-term.

OSET Policy 8 – Decline resource consent applications for OSET systems

We suggest that policy (a) be reworded to read ‘where the proposed discharge may harm human health, or cause adverse environmental effects that cannot be safely and effectively avoided, remedied or mitigated.

OSET Policy 10 – Managing existing OSET systems and Managing new OSET systems

Over the past 15-20 years and more so recently, we have become aware of areas in the Bay of Plenty experiencing problems with onsite systems where reticulation is the only solution. Te Puna Village, Ongare Point and Te Puna West, Maketu and Little Waihi, Matata, and lakes Tarawera, Rotoma and Rotoiti are examples

These areas are not isolated areas or areas with few people and this is concerning. As you know, sewage needs to be managed in the most protective way to reduce the likelihood of creating insanitary situations, therefore the building and resource consent approval processes need to be coordinated from the outset. For instance; a subdivision should not be approved before there is a suitable sanitary system such as a centralised system in place. Likewise a building should not be built or renovated before determining that a suitable sanitary system that best protects health can be put in place.

It is widely known that most OSET systems are not well operated and maintained by homeowners, and this leads to failure and a potential risk to health. This is one of the problems of OSET systems that maintenance zones attempt to manage. Unfortunately, maintenance zones are developed once the discharge effects happen and human health is already at risk.

Policy 10 which manages existing OSET systems is supported and also the approach to manage the type of OSET system and its discharge in policy 3, 5, 6. When these policies are met health will be protected.

It is suggested that council take a more hands on approach to compliance to be assured that existing and new systems will meet these policies, particularly policy 5 and 10. Non-compliance will pose a risk to human health that is unacceptable. Without council identifying and managing the risks of new and existing OSET systems in a proactive way problems will arise. In some situations, the solution can take years to be implemented and in the meantime the risk to public health continues.

Bearing this in mind we suggest and encourage council to require resource consents for all new and existing OSET systems in the Bay of Plenty. To do so will support the overarching aim of the natural resources plan to protect sensitive environments and the purpose of this plan change section to protect human health.

OSET Policy 13 – Waterless composting toilets and OSET Policy 14 – Alternative Toilet Systems

Acceptable sewage systems will separate people from waste, keep pathogens out of the environment and prevent contamination of food and water sources and consequently reduce the risks to health to an acceptable level. Waterless composting toilets and other toilet systems need to achieve set standards to provide confidence that human health and the environment are protected. For this reason, we support the inclusion of policy 13 and 14 that will regulate all types of on-site sewage systems in the plan. Policy 13(c) which requires sufficient land on the property for the installation of an OSET system is supported. Providing the opportunity for septic tanks and aerated wastewater treatment systems which are the best onsite sanitary systems to protect health is a pragmatic approach.

Policy 13(d) is noted however the section size needs to be of sufficient size to also manage the discharge of greywater.

OSET Policy 15 – OSET in areas serviced by a reticulated sewerage scheme

Policy 15 refers to OSET systems in reticulated areas however the current definition of OSET in the draft plan appears to exclude waterless composting toilets and alternative toilet systems. We suggest this policy includes all individual sanitary sewage systems, that is- non-reticulated systems and that all properties be required to connect to reticulated sewerage schemes when the property is within a serviced area.

The best sewage system to protect public health must be the option of first choice and professionally designed, maintained and operated reticulated sewerage schemes are the most protective of health for individuals and communities.

Since reticulated systems are clearly safer than other forms of sanitary systems we can't see how an OSET system would be a 'suitable' appliance for the disposal of wastewater in an area served by a sewerage scheme.

OSET Policy 16 – Addressing cumulative effects of un-reticulated communities

We are pleased to see this policy included and particularly support any proactive and collaborative response to situations that are harming the environment or are a risk to public health. This is because many individual systems results in multiple separate discharge locations placing people at risk as people will reside in the vicinity of their own and other people's waste.

It is suggested that consideration be given to

- including the term unreticulated 'properties' as well as communities. The word 'cumulative' infers more than one discharge, and therefore two properties could be a community. It would be helpful for plan users to clarify the situations that this policy may apply.
- removing the word 'causing ' from the sentence 'or causing a risk to public health'.
- Amending the heading of this policy to 'addressing cumulative effects of OSET system discharges'.

OSET Policy 17 – Maintenance Zones

The use of maintenance zones is recognised as an option in response to known environmental and public health concerns. An OSET system must provide confidence that the risks from sewage are reduced to an acceptable level. A method to achieve this is to ensure sewage will be treated to the highest quality practical and minimise system failure. We would like to see as a minimum, the requirements of a maintenance zone implemented for all OSET systems and for Council to oversee that these requirements are completed. This approach will be protective of health and also improve the level of protection by identifying early on discharges that are degrading the environment.

OSET Policy 18 – Papkainga Housing Developments

The risk of infection from exposure increases when more people are in the vicinity of an onsite discharge. I support the policy to manage OSET systems on multiple-owned Maori land in the way suggested, provided the same level of protection is achieved for housing occupants and community facility visitors as other sectors of the community.

OSET Policy 20 – Coordination with other agencies

We recognise the importance for local authorities and Toi Te Ora to coordinate our regulatory functions and roles in managing sewage and its by-products safely. The inclusion of policy 20 that identifies this is supported. We suggest the plan includes methods that will support the agencies to collaborate and work together be included.

Please note the reference to Toi te Ora Public Health Service should be Toi Te Ora Public Health.

Consequential change to DWR10 of the Regional Natural Resources Plan, (Rule 19) Permitted – Application of Compost, Wood Fibre, Animal Manure, Grade Aa Biosolids or Vermiculture Material to Land

Removing the discharge of material from composting toilets as a permitted activity is fully supported. Council needs to be confident that the risk to health and the environment will be reliably managed. The discharge needs to prevent people, pets, farm animals, food crops/vegetable garden from having direct contact with infectious material. Council also needs confidence that the discharge of material from composting toilets protects drinking-water sources and protects recreational and wild food gathering waters. When Council is assured that these risks are well managed will opportunities for better health begin?

We support the consequential changes resulting from draft change 14 to the Operative Bay of Plenty Regional Natural Resources Plan and have the following suggestion.

The solid component of human waste is highly infectious. Currently the discharge of Aa quality biosolids is a permitted activity which recognises that sewage products of suitable quality may be used without restriction. For instance sold or given away to the public and applied to land. While this approach in principle seems reasonable, we are concerned that

this approach allows an extremely hazardous material to be processed without any independent oversight.

In our experience self-regulation is not particularly effective and the environment and public health have been compromised. For example poor maintenance of OSET systems by householders, inappropriately sited OSET systems, and council having to enforce resource consent conditions.

New Zealand has comprehensive guidelines for the safe application of biosolids to land which Council require compliance to for permitted activity concerning Aa biosolids. However we consider this regulatory approach does not go far enough to protect public health. This is because there needs to be some local interpretation and the application of the guidelines may vary depending on 'on site' conditions or an assessment of risk. The Guidelines are reasonably complex and when developed in 2003 were intended to be supported by a registered biosolid quality management code of practice, and national environmental standards. Without either at the current time and the significant public health risk exists and greater safeguards are necessary locally to protect public health. Therefore, it is recommended that Aa Biosolids are no longer managed as a permitted activity to provide an assurance that biosolids of this category always meet treatment and use requirements stipulated in the guidelines before discharge.

New policy, objective and method – risk management process

The Australian/New Zealand Standard 1547:2012 (the Standard) includes a risk management process and outlines requirements to attain the performance requirements of the Standard. The process applies to all stages of wastewater management and includes full sewerage through to the operation of the OSET system. The Standard explains the role all stakeholders play in implementing the risk management process. A role of regulatory authorities¹ is to review and assess all documents as part of any approval process, including evaluation of OSET versus sewerage systems. The Standard mentions that in addition to basic public health and environmental requirements, successful management and administration includes a procedure to ensure that the option of full sewerage has been assessed and compared with on-site serving, and that the best practicable option has been selected.

The objective of a sanitary sewage system is to protect public health and this needs to be balanced against the cost and individual preferences. As discussed earlier, the best practicable option will provide the best protection to public health.

Professionally designed, maintained and operated centralised sewerage systems are the most protective of health for individuals and communities however onsite systems are acceptable, but only when a connection to/or the establishment of a reticulated sewerage system is not an option, and only in remote and isolated dwellings provided they are properly maintained and operated. Therefore these systems need to be made available whenever possible and extended whenever practicable.

¹ Includes; environmental, planning, sewerage and public health authorities

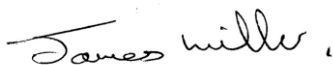
Bearing this in mind we would like to see included in the plan change integrate the risk management process described in section 2 of the Standard by ensuring all stakeholders play their role in implementing risk management.

To do this we recommend the plan change:

- Includes an objective that seeks to provide the wastewater system that provides the best protection to public health.
- Adopts the essential stages of a risk management process outlined in Table 3.1
- Requires all stakeholders to meet their obligations of their roles and responsibilities across all stages of sewage management. Including regulatory authorities, site evaluators and assessors, designers, installation contractors, equipment manufacturers and suppliers, maintenance contractors and property owner determining the best practicable option, including full sewerage, through to the operation of the OSET system.
- Requires regulatory authorities who have a role in wastewater management to review and assess all documents as part of any approval process, including evaluation of OSET versus other sewerage systems.
- Includes a procedure to ensure that the option of full reticulated sewerage has been assessed and compared with onsite systems, and that the best practicable option has been selected to protect the health of the public.

Thank you for the opportunity to comment. If you have any questions or wish to discuss the content of this feedback please call Annaka Davis in the first instance.

Yours sincerely



Dr Jim Miller
Medical Officer of Health

Contact details

Annaka Davis
Toi Te Ora Public Health
PO Box 2120
TAURANGA 3140
0800 221 555
enquires@toiteora.govt.nz