

NATURE CALLS

The biggest environmental and financial decision our city needs to make in the coming years.



Household



Human



Industrial

Have your say NOW!

naturecalls.nz

P 356 8199 | Private Bag 11034, The Square, Palmerston North, 4442



NATURE CALLS

WE NEED YOU TO HAVE YOUR SAY ON THE BIGGEST DECISION OUR CITY NEEDS TO MAKE

Every time you flush, turn off the tap, or your washing machine or dishwasher beeps - that water has to go somewhere to be treated and discharged.

Currently that water, which is known as wastewater, goes to our treatment plant on Tōtara Road where it is highly treated for around four days before being discharged to the Manawatū River.

Our resource consent for how we treat and discharge our wastewater is ending soon, and we need to apply for a new one.

This consultation guide explains the six ways we could do this in the future and what the costs and environmental impact may be, amongst other things.

We've included a submission form at the back of this booklet. You can post it to us, take it to our Customer Service Centre, or one of our libraries. Or you can fill it in online at naturecalls.nz

Your opinion matters to us and future generations. We want to know what you think about the options so we can make an informed decision.

THIS PROJECT FOCUSES ON HOW WE TREAT AND DISCHARGE THE WASTEWATER YOU CREATE, FOR UP TO THE NEXT 35 YEARS

In Palmerston North, we do a pretty good job of managing our wastewater. We highly treat and discharge our wastewater under conditions set in our resource consent. That's one of the methods the Resource Management Act uses to ensure we look after our water and our environment properly. We need to apply for a new one of these by mid-2022.

Since we got our last one back in 2006, laws and standards have changed, along with many people's views about the environment. This means that our current treatment method isn't one of the options for the future as it would also not meet future requirements. While the current discharge complies with all the conditions of our consent, it impacts on the ecology and water quality of the Manawatū River. This project is looking to identify the best practicable option for treating and discharging wastewater and the impacts on the river and/or other environments.

WE WANT YOU TO CHOOSE FROM SIX OPTIONS

Over the past 18 months we've spent a lot of time engaging experts and local mana whenua, Rangitāne, to determine how we might manage, treat and discharge wastewater. Initially we identified 36 different options. A robust assessment and testing process considered a range of environmental, cultural, economic and social factors. We were able to bring the options down to six as most had a major problem - such as: cost prohibitive, wouldn't meet regulations etc.

The six options include a range of different discharge environments: the Manawatū River, land, groundwater, and the ocean. Many of the options include a hybrid, where there would be a combination of different discharge locations.

Each option would see the wastewater treated at our current treatment plant in Tōtara Rd. However the plant would require upgrades for all options. This could change if we find that it may be cheaper or better for the environment to move the treatment plant closer to the discharge site.

This consultation book will take you through each of the options. Then we want you to tell us which one you prefer. Your views will be collected and reported to Council to help them decide what option to proceed with. A formal submission process under the Resource Management Act will take place in a couple of years once we have lodged a resource consent application with Horizons Regional Council.

THE NEXT STEP IS DETERMINING THE BEST PRACTICABLE OPTION

In late 2020, we will take your feedback as well as technical investigations, affordability, environmental impacts and a range of other material to Council as we recommend a best practicable option for the future treatment and discharge of the city's wastewater.

Once an option is chosen to proceed with, we'll be working on the formal resource consent application, which includes preparing an Assessment of Environmental Effects. This should take about 18 months to prepare. We need to lodge the resource consent application and assessment with Horizons Regional Council before June 2022.

Horizons Regional Council will assess the application and may approve it as is, with consent conditions, or decline the application. It is likely that the consent application will be publicly notified.

Once the consent is granted, we will be required to adhere to the conditions. The consent will confirm where the treated wastewater will be discharged to, how much can be discharged, what level of treatment is needed, and monitoring and reporting requirements.

THIS PROJECT WILL IMPACT YOUR RATES

Before this project started in 2017, a placeholder budget of \$128.8M was set aside in our 10-year Long-Term Plan for a new wastewater solution. Since investigating options and doing technical work, we now know that the cost will be far higher.

This project is likely to be the single biggest programme to be contemplated by Council next year for our next 10 Year Plan.

It will have very significant impacts on Council's debt levels and the rates income required to not only service and repay the debt but also to operate the treatment process and discharge.

The Council will as part of its decision making process be faced with prioritising its investments in other facilities and services. This is so that its debt levels do not exceed the limits that will be imposed by its lenders and rates increases are not higher than ratepayers can afford.

Unfortunately, this isn't an optional project. We need to get a new resource consent, so these costs will need to be factored into long term planning for our city.

The challenge will be to determine the most cost effective option that strikes an appropriate balance between environmental, cultural, social and financial considerations. Government, external and industry funding is being explored, and these conversations will continue as we get closer towards choosing the best option for our city.

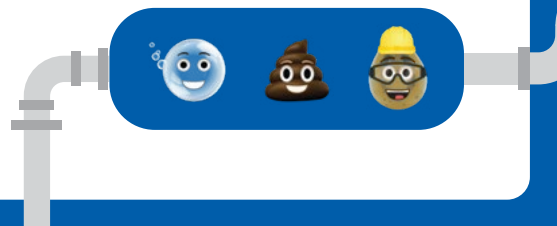
For each option we have outlined the lifecycle cost, which is the cost of purchasing infrastructure or land, upgrading facilities, maintenance and the operational costs for the potential 35 year life of the project.

We've also given a very indicative view of increases in rates levels that might be necessary to fund the various options. We are showing what a potential increase could be, and as a result, what the total wastewater charge per year would be for ratepayers. Currently the charge is \$253 for residential ratepayers per year. Non residential ratepayers pay \$253 per pan (toilet).

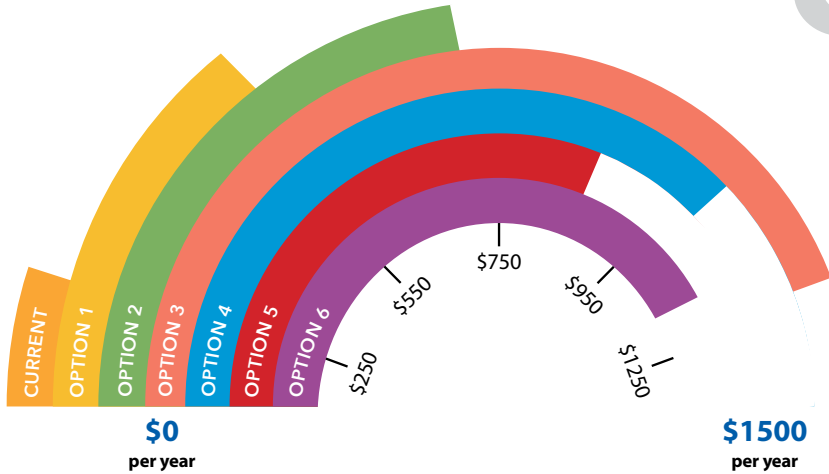
The rates impact assumes a very significant contribution by our trade waste customers. Around 500 businesses currently pay around \$1M combined per year. This could change to between three and six times that.


These costs are just estimates, and are likely to change as we investigate options more. We have had to make assumptions to get to these rate impacts. You can read more about these on our website, naturecalls.nz

With options involving land, there is a potential chance of growing something on the land, like trees or hay, that could create revenue for Council. However, we won't know if this is possible until we have identified locations for land.



THIS GRAPHIC SHOWS HOW MUCH YOUR RATES COULD INCREASE



KEY		
	OPTIONS	TOTAL WASTEWATER CHARGE PER RATEABLE UNIT PER YEAR
		CURRENT
	OPTION 1	\$560
	OPTION 2	\$550 - \$700
	OPTION 3	\$730 - \$1200
	OPTION 4	\$600 - \$1000
	OPTION 5	\$750 - \$860
	OPTION 6	\$1000 - \$1200

A rateable unit is a residential home or unit or per pan (toilet) for non residential rate payers.



Household



Human



Industrial



WE'RE WORKING DIRECTLY WITH OUR TRADE WASTE CUSTOMERS

We have around 500 businesses who have a permit to send their wastewater into our treatment plant. Twenty-three of these create very large amounts of wastewater. They all pay fees for this, and we monitor, sample and work with these organisations to reduce how much wastewater they create.

This project will affect them too, and their fees will also change. We're working directly with these customers on this project.



SUSTAINABILITY IS A KEY FACTOR IN THIS PROJECT

Our city's population is growing and the value being placed on our environment is high. Through this project we are also exploring ways to reduce our wastewater before it goes into the wastewater network for treatment. These will form part of all options as they are developed and refined.

We are also looking at new ways to manage, move, and treat our wastewater. We've taken some steps already, for example, Council's new Pressure Sewer Policy will allow for pressure sewer systems to be installed in areas that would be difficult to service with a conventional gravity sewer system, and allow those areas to be connected to the sewer reticulation.

In addition to Nature Calls, Council is also implementing a range of other waste minimisation programmes, and improving education about other ways the city can reduce waste. This will ultimately have an effect on reducing the volume of wastewater produced by the city.

ALL OPTIONS WOULD MEET ENVIRONMENTAL AND PUBLIC HEALTH STANDARDS

We're confident that all of the options we're proposing would protect public health. We'll also ensure that any treatment method and discharge meets environmental regulations. We're working with some of the best environmental scientists and engineers to inform us how best to achieve these targets. These targets range from eco-system impact, water quality and organisms that live in water or land.





KEY POINTS ABOUT LAND DISCHARGE

The average Palmerston North resident generates 210 litres of wastewater a day and significantly more on a wet day. So, the amount of wastewater we need to treat and discharge is large.

The problem is, we don't have the amount of suitable land we'd need within our Council boundaries for these large volumes. That means we have to look to neighbouring areas. Ideally for the well draining soils we need, land should be close to rivers or the ocean. Through computer analysis we've identified some locations which have the right soil types in Horowhenua and Manawatū districts. We have not done any field work or testing to prove they'd be suitable, and that is why we are not identifying them during this consultation. Once we know what option the public is leaning towards, we will then conduct soil tests and talk to landowners.

The land areas include buffers and non irrigation areas to prevent contamination and adverse effects for neighbouring areas.

Land based discharges would require us to purchase land from owners. As the land we'd need requires good drainage, there's also a chance we'd be taking away land that would otherwise be good for farming or growing food.

Feedback received from local iwi Rangitāne to date is that land application options are generally preferred over the discharge to the Manawatū River or ocean. However, given the very large land area required, it will be difficult to avoid discharging to land that does not hold significant cultural value for Māori. We're investigating this issue and have not yet identified areas with suitable drainage and topography that meet these requirements.



KEY POINTS ABOUT RIVER DISCHARGE

Any river discharge will also treat the wastewater through either a wetland or land passage. Wastewater would pass through these before entering the river. This ensures the water has had a final filter before entering our awa. Wetlands are like a kidney- filtering out any remaining nutrients we wouldn't want in our river. We're currently investigating what size wetland we'd need for the options involving a river discharge.

The Manawatū River is a significant taonga (treasure) for Rangitāne and the city. Even discharges of highly treated wastewater to the river are likely to be perceived negatively by parts of the community, with some community members refraining from recreation activities in the river as a result of the discharge. The discharge of even highly treated wastewater would negatively impact the mauri (life force) of the river and impact the mana of iwi, who are kaitiaki (guardians) of the river. These negative effects may be partially mitigated by the installation of a wetland or land passage facility.



KEY POINTS ABOUT GROUNDWATER DISCHARGE

We've engaged environmental scientists and engineers to inform us how best to achieve regional plan and national targets for groundwater quality. Any consent application would ensure these targets are met.

If a groundwater discharge is the preferred option we'd investigate and identify all public and private water supplies. However, we still expect there will be community concern about the discharge of even highly treated wastewater to groundwater. Very careful analysis will be needed to ensure that this does not negatively impact private water supplies or increase the potential for flooding or surface ponding on neighbouring properties.

Some landowners would be directly impacted if Council sought to acquire land for the rapid infiltration system and land application site.

Iwi have concerns about the potential for adverse effects on the mauri (lifeforce) of groundwater and connected streams. This may be partially mitigated by including a wetland prior to the rapid infiltration facility and by applying part of the wastewater to land during drier months of the year. Care will be needed in locating the land application site to ensure that sites and values of significance to Māori and others are as far as practicably avoided.

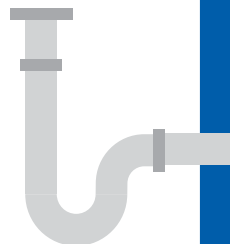


KEY POINTS ABOUT OCEAN DISCHARGE

We'd ensure the treatment process for our wastewater meets guidelines for ocean water quality. We'll also continue to investigate the best location for the outfall pipe.

The ocean is a significant taonga (treasure) for iwi and is highly valued by the whole community. Discharging treated wastewater to the ocean may be perceived negatively by parts of the community, particularly those living in coastal communities. Some community members may also restrict their recreation and food gathering activity as a result of the discharge. The discharge of treated wastewater would negatively impact the mauri (life force) of the ocean, the ability to harvest kaimoana and impact on the mana of iwi, who are kaitiaki (guardians) of the ocean. These negative effects may be partially mitigated by applying a portion of the wastewater to land. However, the benefits of this mitigation are likely limited.

We would carefully consider recreation values when selecting the location of the outfall pipe.



OPTION 1

ALL TREATED WASTEWATER IS DISCHARGED TO THE MANAWATŪ RIVER, WITH IMPROVED REMOVAL OF PHOSPHORUS AND NITROGEN

This option is the one most similar to how we currently do things, with 100% of treated wastewater from the Wastewater Treatment Plant on Tōtara Road being discharged to the Manawatū River.

Under this option, there'd be a significant upgrade to our treatment plant to improve the way we treat phosphorus, a chemical found in fertilisers, food and household cleaning products. We'd look to move away from a chemical removal process and instead use a natural biological process. This would reduce costs and could improve the process.

We'd also improve our treatment of nitrogen, which gets into wastewater from urine. These contaminants come into the wastewater system from the city's homes and businesses. We'd also move towards a natural process for removing nitrogen. New innovative technology which uses less energy will be considered. We'd expect to see a decrease in bio-solids, which are the remainder of solid material that comes into our treatment plant. Both phosphorous and nitrogen are nutrients that can negatively impact freshwater plants and animals when discharged at high concentrations.

The construction and operation of this option is well understood.

WE'D NEED TO INSTALL OR BUILD:

This option would require significant upgrades to the treatment plant, and the construction of a new wetland or land passage.

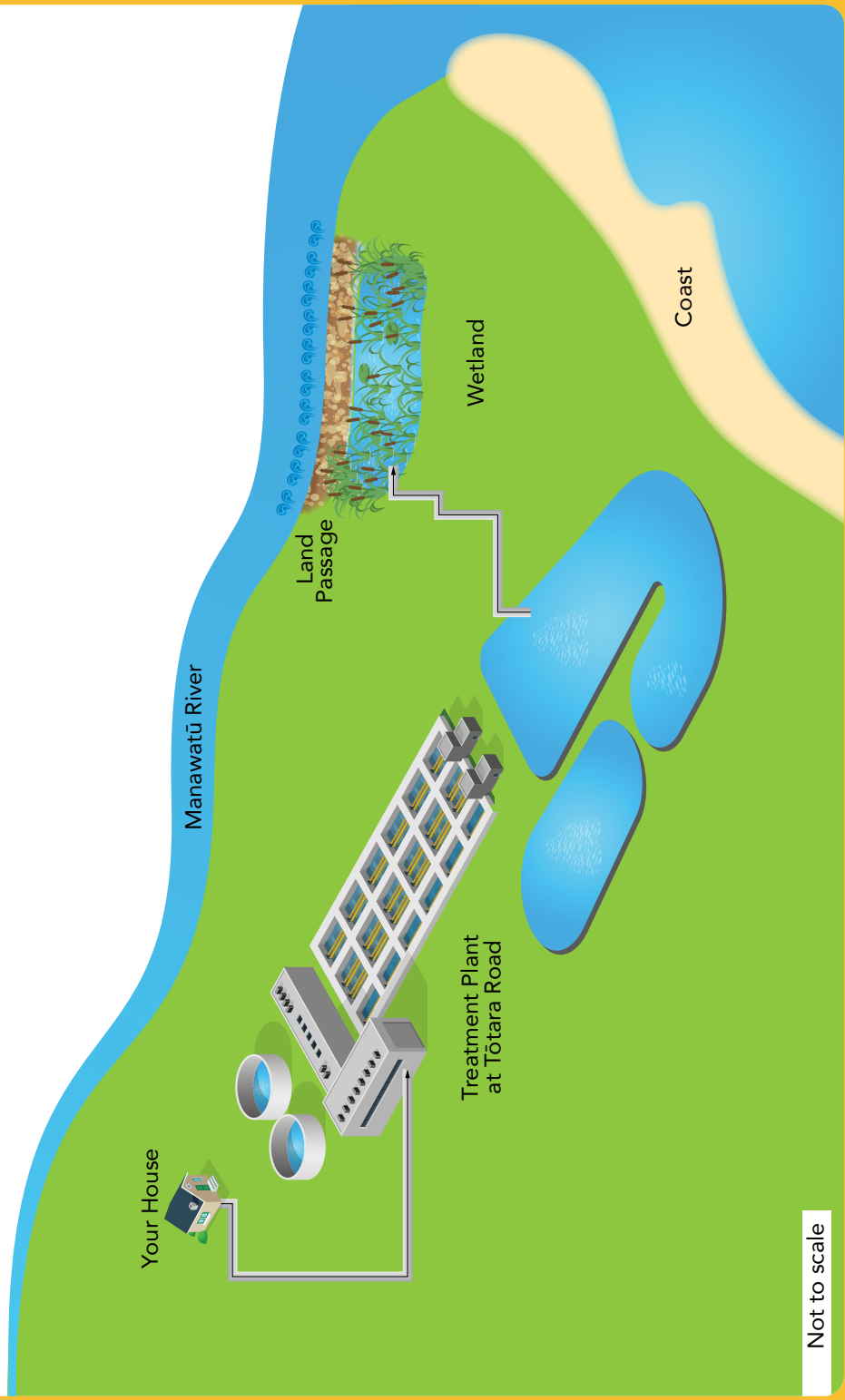


Cost

**Lifetime
Cost**
\$285M

**Potential
Rate Increase
per year**
\$310

**Total
wastewater
charge per
rateable unit
per year**
\$560



Your House

Manawatū River

Land Passage

Treatment Plant
at Tōtara Road

Wetland

Coast

Not to scale

OPTION 2

TREATED WASTEWATER DISCHARGED TO MANAWATŪ RIVER AT TŌTARA ROAD, AND BELOW OPIKI BRIDGE, WITH SOME LAND APPLICATION

Wastewater would be discharged at three separate locations at different times and in different proportions - Manawatū River at the current Tōtara Road location, down river of the Opiki Bridge (just past Longburn) and on land.

In higher flows, the discharge would occur at Tōtara Road. As the river drops below intermediate flows and becomes more sensitive to nutrients, the discharge would be directed to below the Opiki Bridge. Here, the Manawatū River changes from a gravel bed to a soft sediment bed, and as a result, it becomes less sensitive to some of the nutrient levels in the treated wastewater. In low flows, when the river is at its most sensitive, a portion of the discharge would be applied to land, with the remainder continuing to be discharged below the Opiki Bridge.

We expect the discharge would occur at Tōtara Road for approximately 30-40% of the time, and below Opiki Bridge for the remainder of the time, with a portion of the flow diverted to land during the driest periods of the year.

The discharge to land would likely be through large centre-point irrigators – similar to the large irrigation machines used on farms. We still need to identify where this would occur. 400-500 hectares (ha) of land will be needed, which is equivalent to about 400-500 rugby fields.

WE'D NEED TO INSTALL OR BUILD:

Pipes to move the treated wastewater from the treatment plant to the downriver discharge point and land application site; storage basin and a rapid infiltration basin to buffer flows to the land application area. We'd also need to purchase irrigation infrastructure and purchase or lease the land application site. Shifting a portion of the discharge away from Palmerston North may be opposed by downriver communities. Some landowners would also be directly impacted by the need to lease or purchase land. For this option, two wetlands and /or land passage systems would need to be built at both river locations. Minor upgrades would also be necessary at the treatment plant on Tōtara Road.

The construction and operation of this option is well understood.

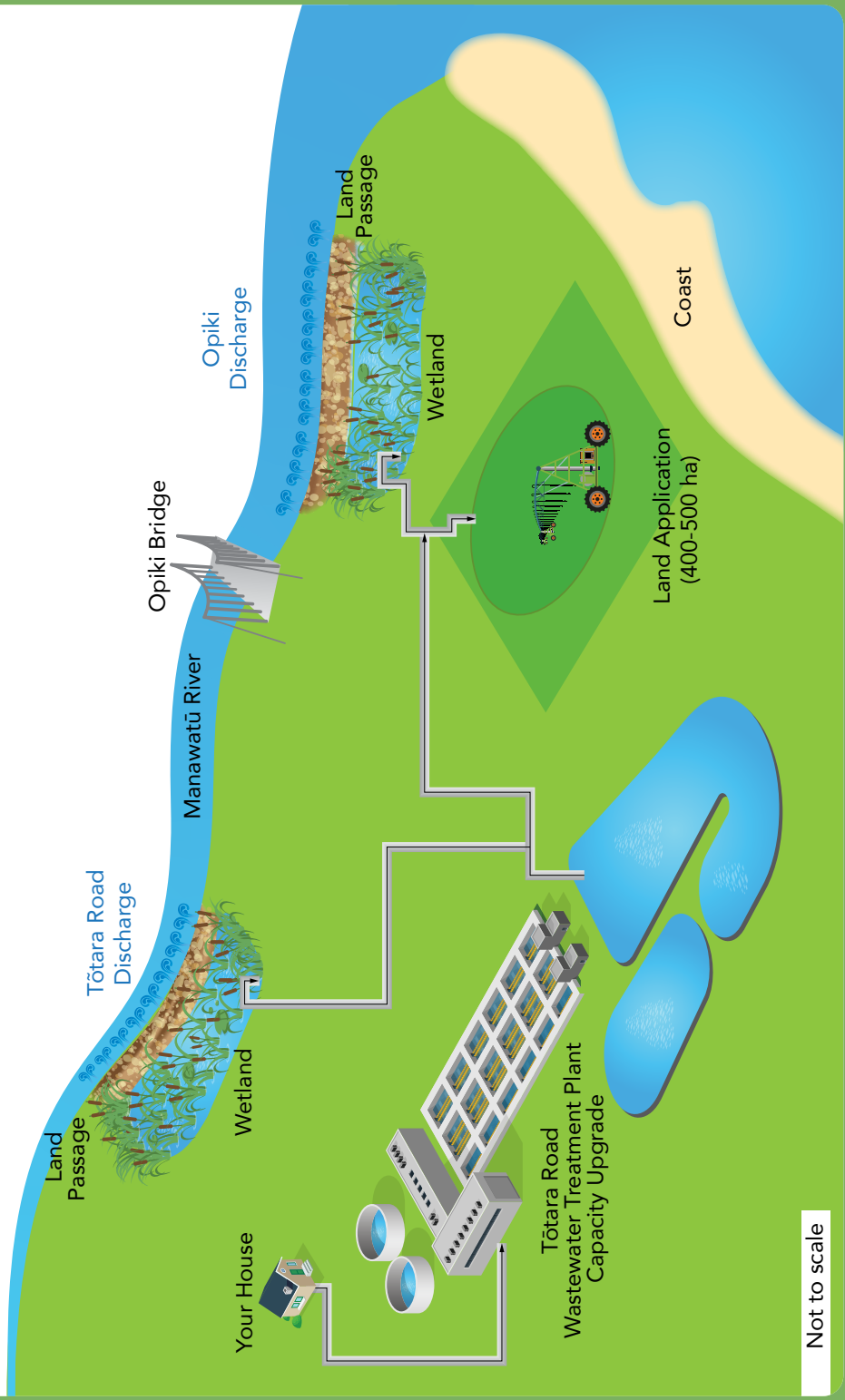


Cost

Lifetime Cost
\$264-380M

Potential Rate Increase per year
\$300-450

Total wastewater charge per rateable unit per year
\$550-700



Not to scale

OPTION 3

TREATED WASTEWATER APPLIED TO LAND, WITH DISCHARGE TO THE MANAWATŪ RIVER IN EXCEPTIONAL CIRCUMSTANCES

Treated wastewater would be applied to land approximately 97% of the time. The remaining 3% of time, treated wastewater would be discharged into the Manawatū River from the existing discharge point at Tōtara Road. This would occur when the river is least sensitive to the discharge – when the river is full and in high flow, likely to be in winter.

This option would require either leasing or buying large areas of land, about 2,500 to 3,500 ha depending on drainage and topography of the site. This could affect a large number of landowners given the large area required and relatively small landholdings on the Manawatū plains.

WE'D NEED TO INSTALL OR BUILD:

Pipes to move the treated wastewater from the treatment plant to the land application site; storage basin and rapid infiltration basin to buffer flows to the land application area; irrigation infrastructure and purchase or lease the land application site. We'd also need to construct a wetland or land passage facility for the river discharge and undertake upgrades to the treatment plant. The plant upgrades could vary between minor capacity upgrades to a new treatment process, depending on the nature of the soils at the land application site. If a site with better quality soils is selected, then the treatment plant will require fewer upgrades. However, costs saved may be offset by higher land acquisition or lease costs. We'd need to ensure we can acquire enough land with the right soils for absorbing treated wastewater, but we don't believe this is a significant concern.

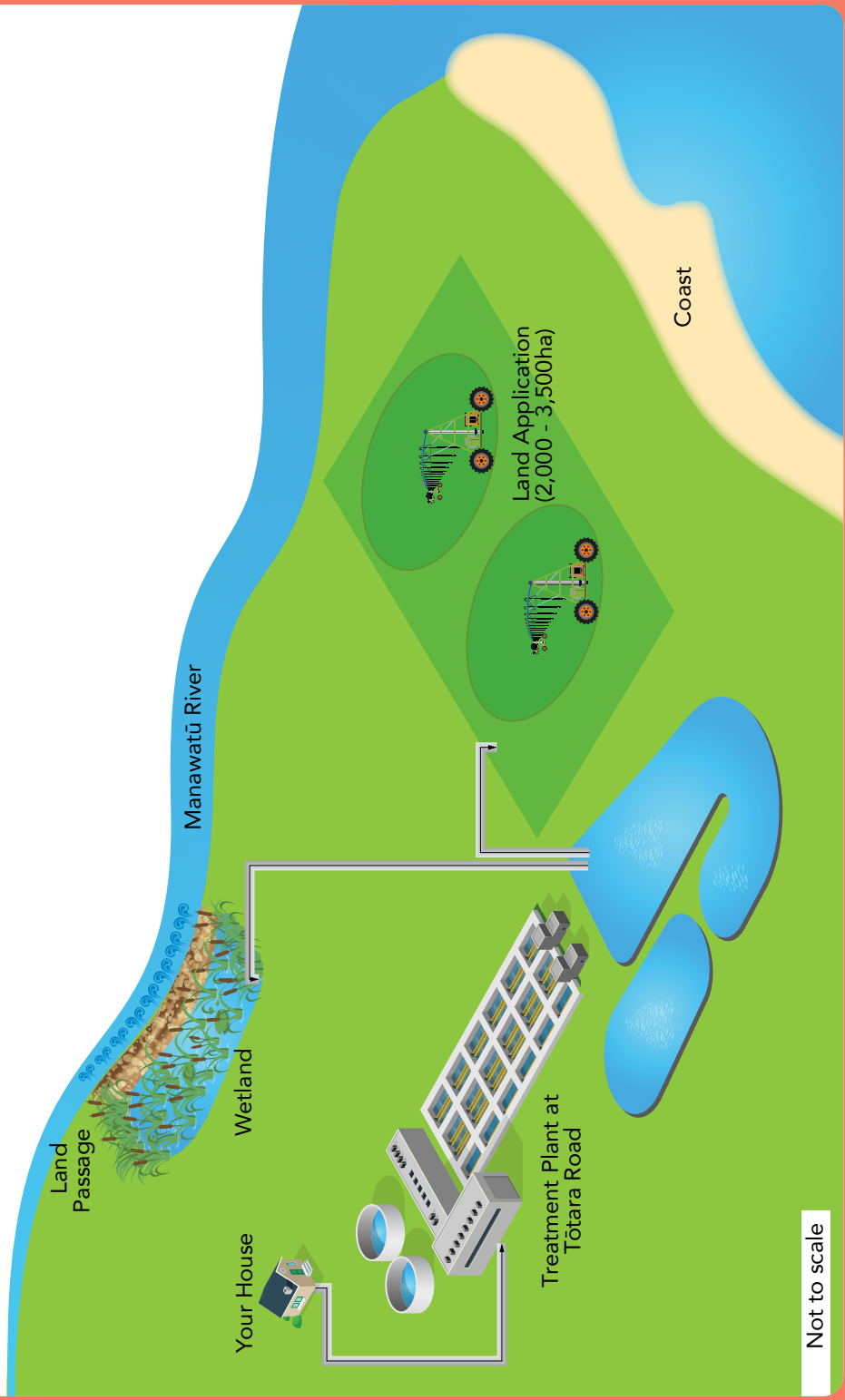


Cost

**Lifetime
Cost**
**\$416-
765M**

**Potential
Rate Increase
per year**
\$480-920

**Total
wastewater
charge per rateable
unit per year**
\$730-1200



Not to scale

OPTION 4

TREATED WASTEWATER APPLIED TO LAND, WITH SOME DISCHARGE TO THE MANAWATŪ RIVER

The majority of treated wastewater would be applied to land. When the Manawatū River level is high, treated wastewater would be discharged from our current discharge point at Tōtara Road.

Treated wastewater would be applied to land about 60-70% of the time and discharged to the river about 30-40% of the time. The trigger for the shift from land application to river discharge will be the flow in the Manawatū River. River discharges would only occur when flow in the river is higher than normal and, as a result, the river is less sensitive to nutrients from the treated wastewater.

This option would require between 1,250 and 2,000 ha, depending on the land.

WE'D NEED TO INSTALL OR BUILD:

Pipes to move the treated wastewater from the treatment plant to the land application site; storage basin and rapid infiltration basin to buffer flows to the land application area. We'd need to purchase irrigation infrastructure and purchase or lease the land application site. This could affect a number of people given the area required and the relatively small landholdings on the Manawatū plains. We'd need to ensure we can acquire enough land with the right soils for absorbing treated wastewater, but we don't believe this is a significant concern. We'd also need to construct a wetland / land passage facility for the river discharge and undertake upgrades to the treatment plant. These plant upgrades could vary between minor capacity upgrades to a new treatment process, depending on the nature of the soils at the land application site. If a site with better quality soils is selected, then the treatment plant will require fewer upgrades. However, costs saved may be offset by higher land acquisition or lease costs.

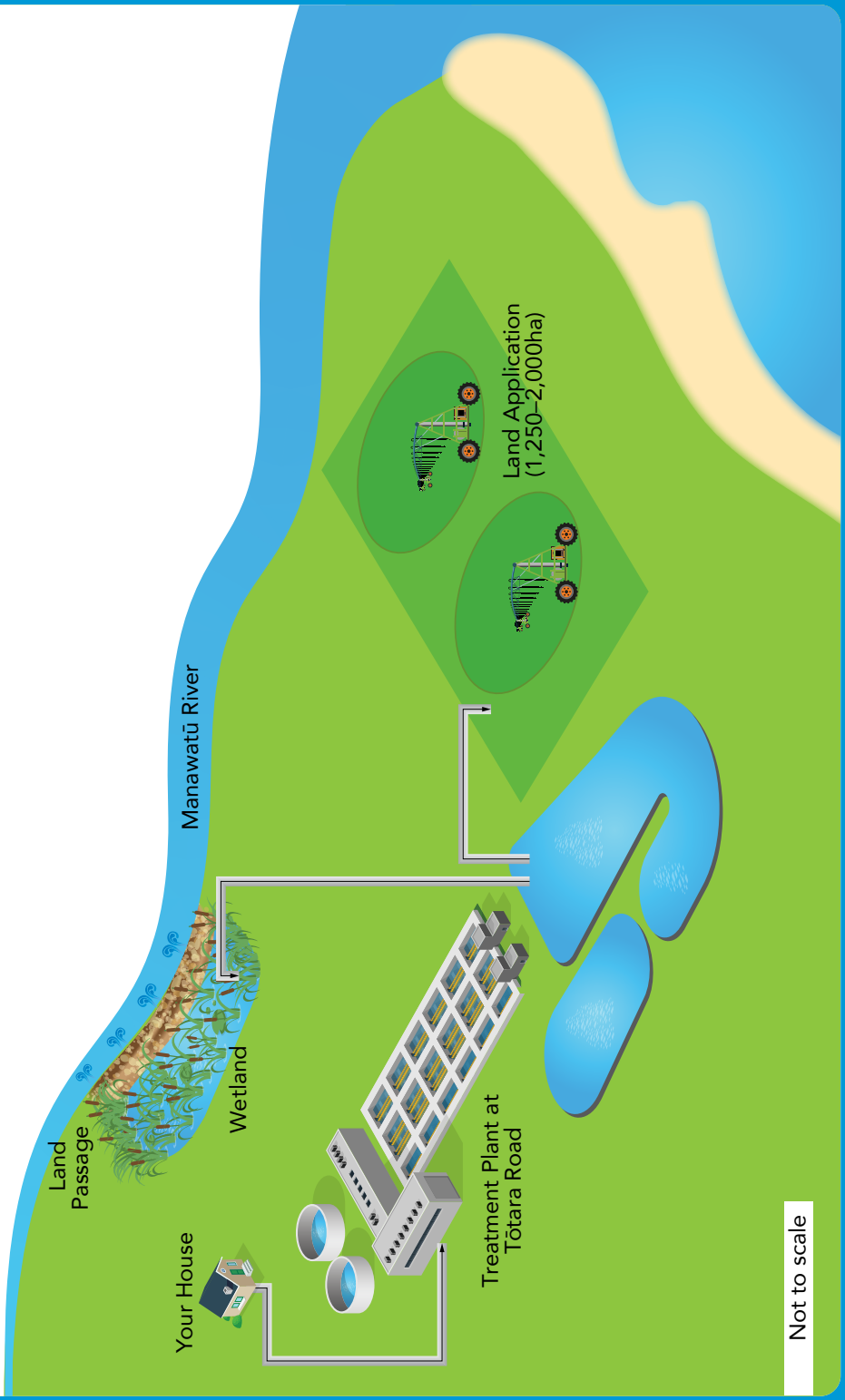


Cost

**Lifetime
Cost**
**\$312-
621M**

**Potential
Rate Increase
per year**
\$340-730

**Total
wastewater
charge per rateable
unit per year**
\$600-1000



Land Passage

Your House

Wetland

Manawatū River

Treatment Plant at Totara Road

Land Application (1,250-2,000ha)

Not to scale

OPTION 5

DISCHARGE TO GROUNDWATER VIA INFILTRATION, WITH LAND APPLICATION IN THE DRIER MONTHS OF THE YEAR

Treated wastewater would be discharged by high rate infiltration in specifically designed infiltration basins or trenches located over highly porous soils. The permeable nature of the basin or trenches and the underlying soil enables the treated wastewater to reasonably quickly drain to the groundwater and not cause surface ponding or flooding. Groundwater is water held underground in the soil or in crevices in rock. The groundwater that would be accessed by the rapid infiltration approach is relatively shallow and will likely be directly connected to nearby streams and rivers. Therefore, the treated wastewater would likely reach nearby water in a matter of days.

A portion of the treated wastewater would be applied to land in the drier months of the year (October to May). Approximately 1,000 to 1,600 ha of land would be needed for the land application site.

Under this option, we may also need to discharge small amounts, infrequently, to the Manawatū River. That's because when it's been raining heavily for a number of days groundwater level may be higher. If the levels are too high then the land cannot absorb anymore and that water would runoff elsewhere, and that would have the potential to adversely effect the environment.

WE'D NEED TO INSTALL OR BUILD:

Pipes to move the treated wastewater from the treatment plant to the rapid infiltration and land application site, a storage basin to buffer flows, install irrigation infrastructure and purchase or lease the land application site. A significant upgrade would be required to the treatment plant to achieve wastewater quality that is appropriate to discharge to groundwater and which meets environmental regulations. A wetland would also likely be constructed prior to the rapid infiltration facility. Some landowners would be directly impacted if Council sought to acquire land for the rapid infiltration system and land application site. We also expect concerns about the risk to drinking water supplies. Construction and operation is well understood.

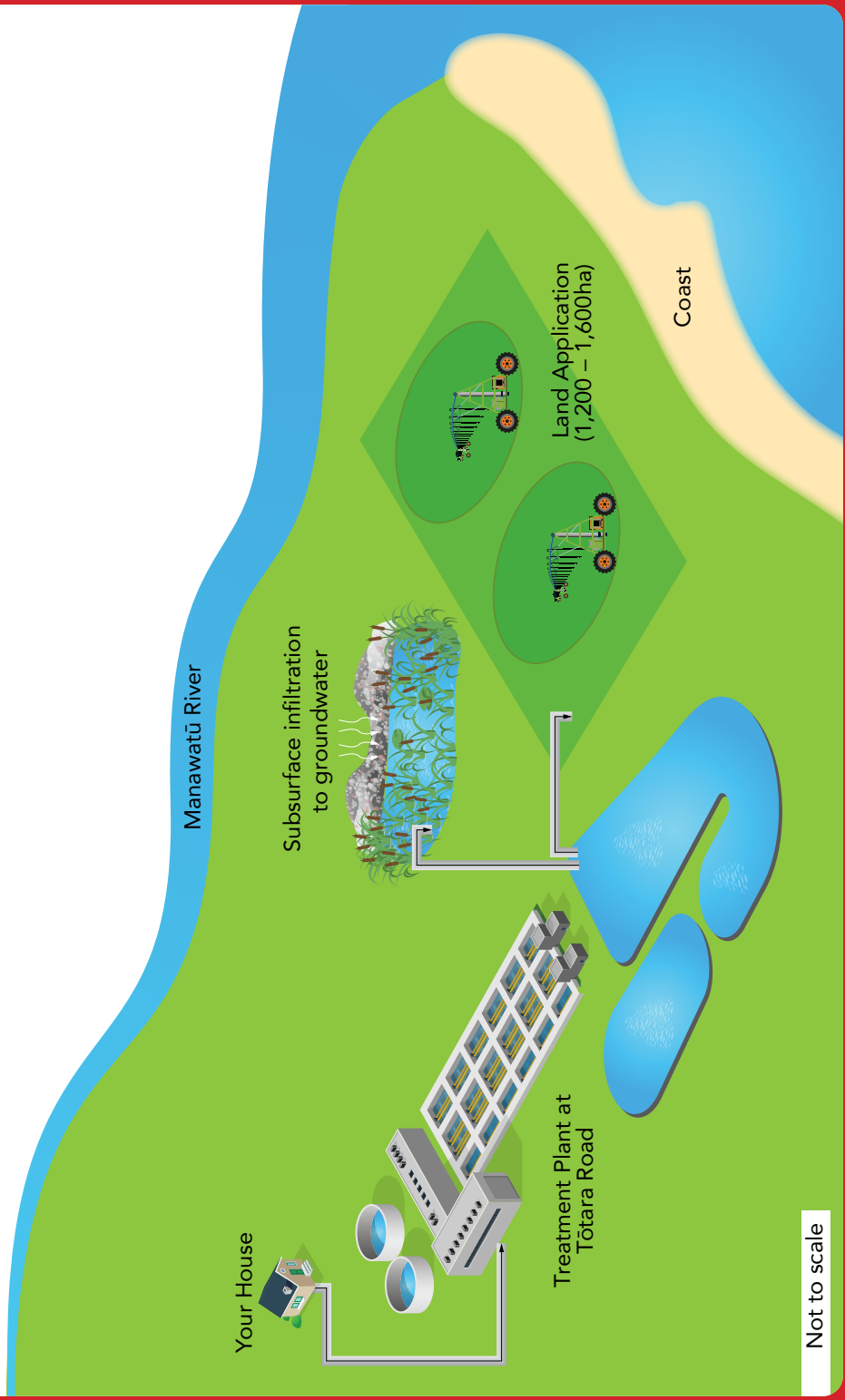


Cost

**Lifetime
Cost**
**\$401-
\$28M**

**Potential
Rate Increase
per year**
\$450-600

**Total
wastewater
charge per rateable
unit per year**
\$750-860



Your House

Treatment Plant at
Totara Road

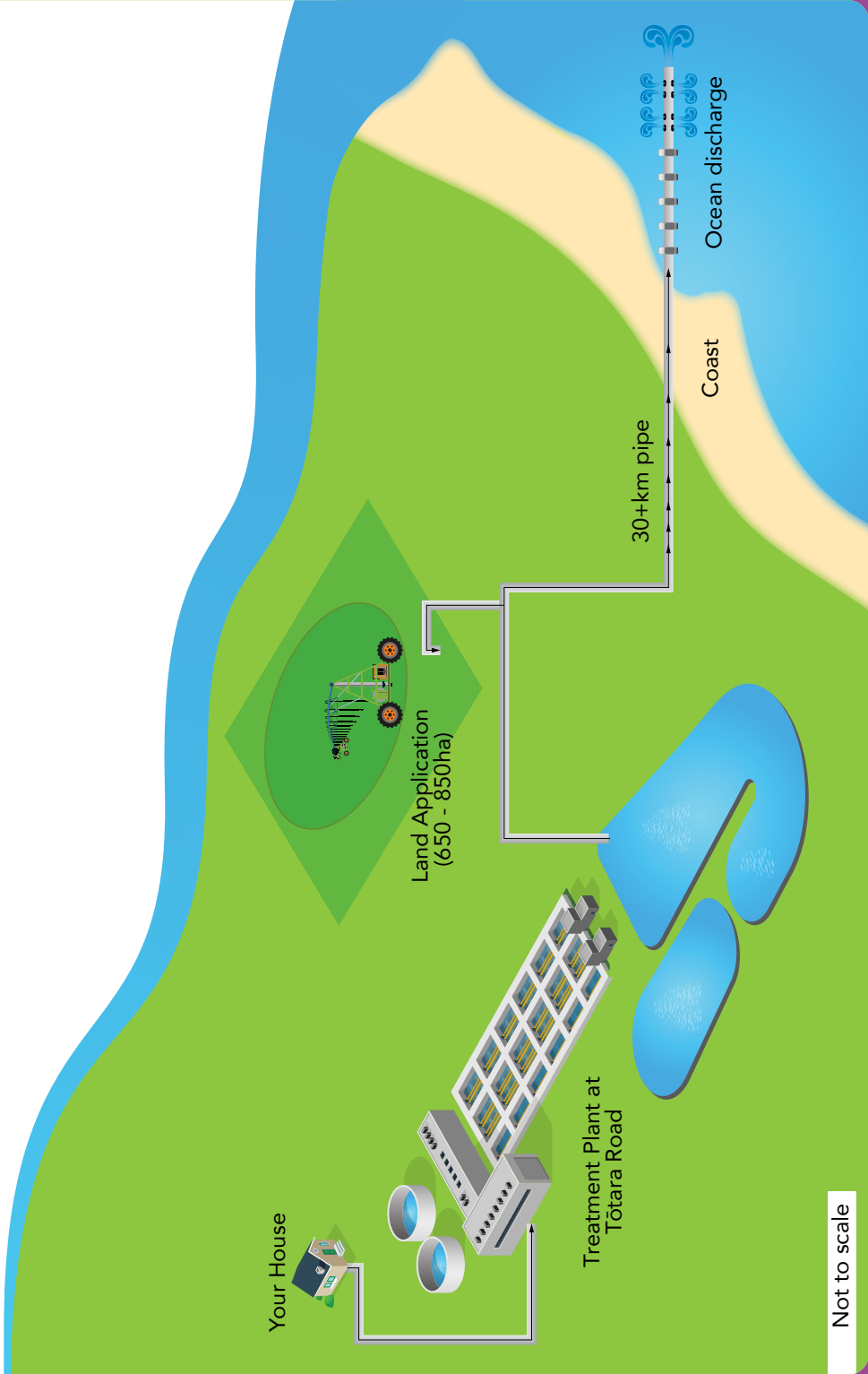
Subsurface infiltration
to groundwater

Land Application
(1,200 – 1,600 ha)

Manawatū River

Coast

Not to scale



Not to scale



PUBLIC MEETINGS

With the current uncertainty regarding COVID-19, we are taking a wait and see approach to having public meetings.

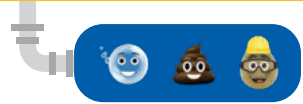
If it is possible to hold meetings we will promote these on [naturecalls.nz](https://www.naturecalls.nz), [pncc.govt.nz](https://www.pncc.govt.nz), the Council's Facebook page and we will advertise them in newspapers and on radio.

UPDATE: FEEDBACK NOW CLOSSES AT 5PM ON FRIDAY 10 JULY

Feedback forms are not returned, so please make a copy for yourself.

Privacy Notice: All feedback will be available to the public, and may be placed on the City Council website.

HAVE YOUR SAY FEEDBACK FORM



Please drop your feedback form to our Customer Service Centre or one of our libraries.
You can also fill this in online at www.naturecalls.nz

You can also post it to: Nature Calls Submissions, Palmerston North City Council,
Private Bag 11034, The Square, Palmerston North, 4442

You may add additional pages if you want to expand on any of your answers.

Name				
Address				
Email Address				
Where do you live? (<i>Palmerston North, Manawatū, Horowhenua, other</i>)				
Do you own a home in Palmerston North? (<i>please tick</i>)			<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are you a business owner in Palmerston North? (<i>please tick</i>)			<input type="checkbox"/> Yes	<input type="checkbox"/> No
What age range are you in?	<input type="checkbox"/> under 18	<input type="checkbox"/> 18 - 30	<input type="checkbox"/> 31 - 40	
	<input type="checkbox"/> 41 - 50	<input type="checkbox"/> 51 - 60	<input type="checkbox"/> 61+	
Gender (<i>please tick</i>)	<input type="checkbox"/> Male	<input type="checkbox"/> Female	<input type="checkbox"/> I do not wish to state	
Do you identify as tangata whenua in Palmerston North, Horowhenua, Manawatū? (<i>please tick</i>)			<input type="checkbox"/> Yes	<input type="checkbox"/> No
If yes, please identify your iwi/hapu/tribal affiliation				
Are you a regular recreational user of the Manawatū River? (<i>please tick</i>)			<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are you a regular recreational user of the coastal area around Manawatū/Horowhenua?			<input type="checkbox"/> Yes	<input type="checkbox"/> No
What kind of area do you live in?	<input type="checkbox"/> Urban	<input type="checkbox"/> Rural	<input type="checkbox"/> Coastal	



Please turn over to complete form

Please rank the options in order of your preference: 1 being most preferred, 6 being least.

1

2

3

4

5

6

Which option do you prefer and why?

What don't you like about the other options?

What matters most to you? *(Cost, good environmental outcomes, etc)*

Is there anything else you'd like to add?

