

# What is wastewater and how is it treated?

## Wellington Water's customer update

Issue 2: October 2020

Information covering common questions raised by our customers, and providing some facts and figures about the three waters network (drinking water, stormwater and wastewater).

## Three waters management:

**4,824 million litres**

drinking water supplied during August

**53 wastewater overflows (dry)**

due to blockages and failures in August

**4,712 million litres**

wastewater treated and discharged to sea/irrigated to land during August

**6 wastewater overflows (wet)**

due to wet weather in August

## Network maintenance:

**1,577**

**Service requests**

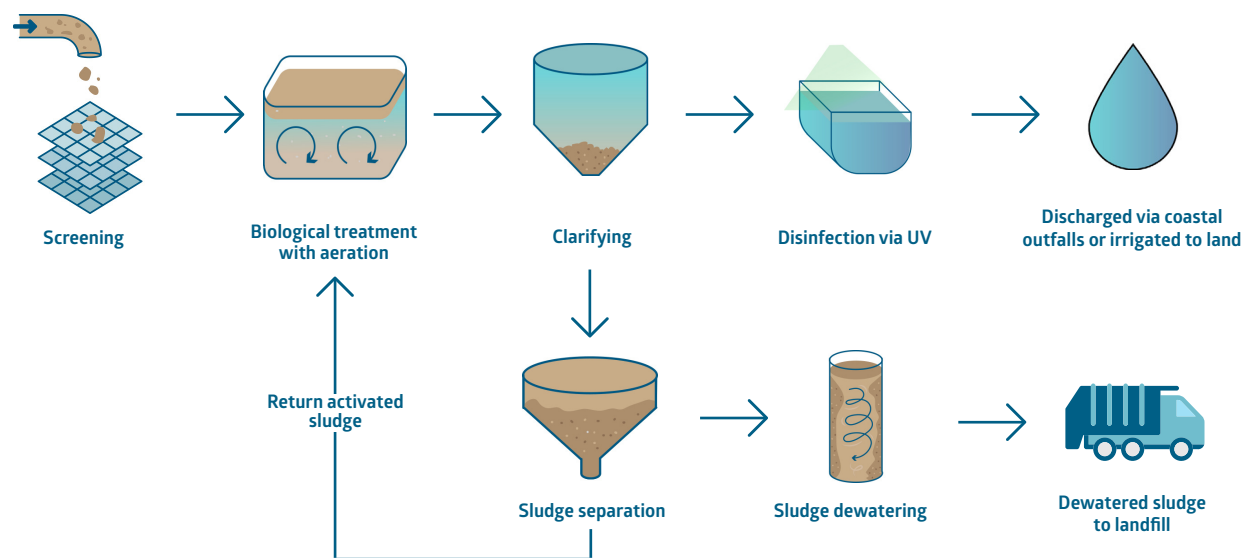
resolved for all client councils in August (bursts, leaks, blockages)

**83%**

**Customer satisfaction rating**

based on call-back surveys across all client councils

## Treatment process:



Maa Point Wastewater Treatment Plant

### What exactly is 'wastewater'?

Wastewater is made up of the outflow of used water from our homes, commercial businesses, and some industrial trade premises. The wastewater from home includes from our bathrooms (showers, sinks, baths and toilets), our kitchens (sinks and dishwashers) and our laundries. Before being treated, wastewater is made up of 99% water and 1% other material, including human waste.

### Where does wastewater go?

It flows from your home's internal plumbing into a gully trap, a covered basin attached to the house which connects to an underground drain called a private lateral. There are minor bylaw differences across the region, but generally private laterals belong to the property owner, (rather than the local council). Laterals connect to the public wastewater network, where small service branch pipelines collect wastewater from streets and direct it into larger mains. The network is designed to make use of gravity as much as possible, but there are also more than 150 pump stations installed at points where wastewater needs to flow uphill. Eventually, all wastewater will flow into a trunk main, which can be up to 1.8m in diameter – big enough to walk through! These connect to one of the eight wastewater treatment plants across the region.

### How is wastewater treated?

All treatment plants are slightly different, but the process is generally similar. First we filter out all the foreign objects such as wet-wipes, plastic bags etc. Then we use environmentally-friendly bacteria to break down and absorb nutrients like fats, sugars and ammonia from body waste that are in the wastewater. This naturally creates bacterial clumps, which we separate from the water using gravity, returning some of the bacteria to the treatment process and removing most of the water from the rest using centrifuges, leaving a sludge which is sent to landfill. The remaining water undergoes UV treatment to reduce viruses and bacteria to safe levels before it is discharged into the ocean via coastal outfalls or irrigated to land (South Wairarapa treatment plants discharge to rivers when irrigation is not suitable). All our wastewater treatment plants are subject to individual resource consents, which include specific conditions regarding the quality of the treated wastewater they discharge.

### What are wastewater overflows?

Overflows occur when wastewater is discharged to the environment before being fully treated. There are two main types: Wet weather overflows are the largest of these discharges. They can happen during heavy rain, when stormwater gets into the wastewater network, and causes it to overflow, usually via specific overflow points designed to direct these away from human habitation. It's something we try to minimise by building in additional capacity at key points of the network. Wet weather overflows are diluted with stormwater that picks up other contamination from the roads. Please remember to take care and avoid swimming or other water activities 48 hours after heavy rain. Dry weather overflows usually indicate a blockage or collapse in the network, and our service crews respond to these as a top priority. You can do your part to reduce overflows by ensuring that no outside water goes into your gully trap and not planting trees over your lateral drain. Also remember only flush the 3Ps (pee, poo and (toilet) paper) to help reduce blockages both in your lateral and the Council mains.

### What are cross connections?

Cross connections are a specific plumbing fault where a property's wastewater pipes are incorrectly connected to the stormwater network and vice versa. This means wastewater from such a property will reach the environment without being treated. Finding and fixing cross connections is an important part of improving the health of our region's waterways.

Wellington Water is owned by the Hutt, Porirua, Upper Hutt, and Wellington City councils, South Wairarapa District Council, and Greater Wellington Regional Council. We manage their drinking water, wastewater and stormwater services.

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