

Martinborough Wastewater Treatment Plant Upgrades

What is the project purpose?

The Martinborough Wastewater Treatment Plant (MWWTP) is in need of upgrades to improve plant performance, improve consent compliance and reduce future adverse effects on the environment.

What is happening?

The MWWTP has been in operation since the 1970's. The plant has reached its design capacity. The works include removing the build-up of sludge within the treatment ponds to assist in restoring treatment efficiency.

What are the benefits?

Removing the build-up of sludge within the treatment ponds will improve the quality of the treated discharge to the Ruamāhanga River, reduce the risk of odours longer term and help address non-compliances with the plant's existing resource consent conditions.

What is desludging?

The MWWTP uses wastewater stabilisation ponds, or oxidation ponds, to treat wastewater. Over time, bio-solids build up in the bottom of these ponds as 'sludge' – a by-product of the treatment process. The sludge must be periodically removed, or it will reduce the treatment ponds efficacy.

The sludge levels in the MWWTP ponds are currently exceeding design operating limits, affecting the treatment plant performance. To assist with bringing the plant back into compliance, desludging was identified to assist in restoring treatment efficiency.

Desludging is a successful method that has been used at other pond-based treatment plants throughout New Zealand. The process involves pumping or vacuuming sludge into sediment filter bags, or geobags. The geobags allow water to flow out through the porous fabric of the bags while filtering and retaining the solids.

Phase 1: A laydown area is constructed near the ponds where the sump pump and geobags are positioned, and the base of the laydown area is lined with river rock and impermeable lining to prevent any leakage into the environment. The sludge is then pumped from the ponds into the geobags over a period of about 2-3 months.

Phase 2: Over a period of about 3-5 years, the geobags will dewater and collect in a sump that pumps it back into the wastewater stabilisation ponds for treatment. Additional sludge will be pumped into the geobags as room becomes available during the desludging process.

When is this happening?

It's anticipated the contractor will be on-site in late 2024 to setup the site and establish the pumping equipment and geobags.

The initial desludging process is expected to take 2-3 months, with the site clearing in mid-2025.

Moving forward, desludging of the ponds will be carried out on a 5-year cycle to maintain optimal operating conditions.

For more information www.wellingtonwater.co.nz/project/martinborough-wastewater-treatment-plant-upgrade