

Owner & Occupier's Manual

Low Pressure Grinder Pump (LPGP) System



**Council's Contact: (07) 348 4199
(24 hours)**

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Introduction

This manual contains information for owners and occupiers of properties with Low Pressure Grinder Pump (LPGP) systems on their property.

Please keep this manual in a prominent place on the property for quick reference, particularly in the case of an alarm.

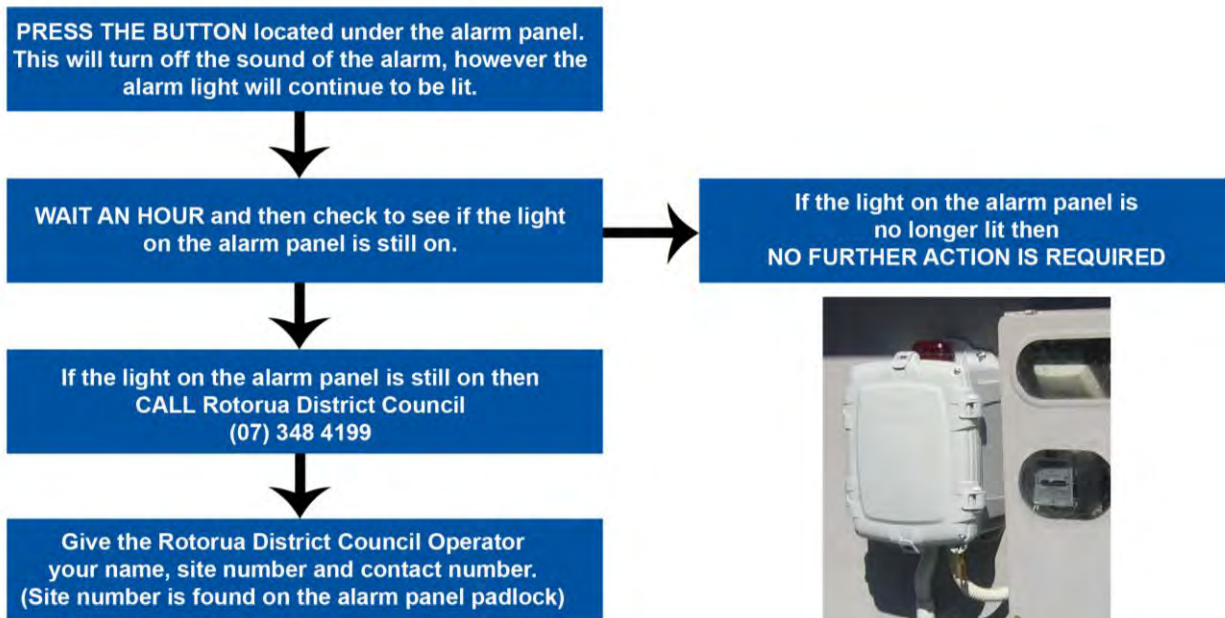
Emergency Contact Numbers

For help with your sewerage system please phone Rotorua District Council on **(07) 348 4199 (24 hours)**.

The operator may ask you several questions to try and resolve the issue over the phone, if unable we will dispatch a contractor to the site.

What to do if the Alarm Sounds

When the pumping unit alarm is activated it will make a sound and a red light will come on. If this happens you should take the following steps:



Interruption to Power Supply

In the case of a power supply failure, the grinder pump (including alarms) will not function. The chamber has approximately 12-24hrs of storage.

In the event of a significant (more than a few hours) power cut, please minimize the amount of water being used. Some tips on reducing water are:

- Keep showers brief
- Avoid taking baths – if a bath is required, leave the water in until the power comes on if possible
- Turn off taps when not in use
- Avoid using dishwashers and washing machines where possible

If the alarm sounds immediately after a power outage, press the button under the alarm panel to silence the alarm.

Storage levels can trigger the alarm during a power outage but will return to normal once power has been restored. If the red light has turned off after one hour, the system has returned to normal operation.

If the red light is still on after one hour please phone the District Council on **(07) 348 4199**.

Do not turn off the power to the pump unit or remove the fuse.

If it appears that the power outage may last longer than eight hours, the District Council may visit your property to empty the system.

Frequent Alarm Troubleshooting

If the alarm sounds and then turns off on a regular basis please consider the following:

- Do you have an appliance connected to your wastewater system that empties a large amount of water quickly into the pressure sewerage system?
- Is the alarm sounding during or immediately after rain? This may indicate that you have stormwater entering your drainage system.

These issues will need to be dealt with as they may cause you significant problems, so please report to the District Council by phoning (07) 348 4199. Continue to use your pressure sewerage system as normal

Non-Flushable Items

To avoid blockages and damage to the Pressure Sewerage System the following items should **NOT** be placed into the system.



Please note that all wet wipes, even those advertised as flushable, are not appropriate for the LPGP system as they will block the pump. Traditional toilet paper is the only paper product that should be discharged to the sewer.

If you are in doubt about any substances entering the sewerage system, please phone the District Council on 348 4199.

Going on Holiday

It is suggested that before you depart that you:

- Partially fill the bathtub and then release it into the drain or run your washing machine through a cycle. This will activate the pump in the tank and flush clean water through the system.
- Advise your neighbours of the procedure should the alarm be activated. They can contact us in the event of the alarm sounding.

- Do not turn off the power to the pumping unit. If the unit is turned off at the power board, the alarm will not sound to warn neighbours if a problem does occur.

It is highly unlikely that there will be an alarm incident while you are away on holiday, as no sewage will be entering the system.

Repairs to the Pumping Unit

Rotorua District Council will service and repair the pressure sewerage installation on your property, and in the street. The District Council is not responsible for household plumbing that drains to the storage tank.

Repairs to the property owner's plumbing system, up to the connection to the storage tank, are at the owner's expense, as are repairs for any other form of sewerage system.

Warranties / Repair Costs

Operation and servicing of the system is included in the general sewerage rates paid by the owner to the District Council.

The exceptions to this will be if you have:

- Discharged matter into the pumping unit that you have been advised not to
- Tampered with the pumping unit, storage tank or controls,
- Interfered with or damaged the pump discharge line or boundary kit,
- Sealed off the venting to the unit.

Service Arrangements

In most cases repairs will be undertaken by replacing the grinder pump unit. This can be done on your property and should take less than one hour to complete once a service crew is on site.

Frequently Asked Questions

Burst Mains

Wet ground or water coming from the ground between the storage tank and the boundary kit may indicate a burst pipe.

If you think the pumping discharge line is damaged please phone the District Council on **348 4199** immediately and turn off the power to the pump at your power board.

During a burst pipe incident minimise the discharge of wastewater to the system

Loading on the Storage Tank Covers

The storage tank cover is safe for walking on but vehicles must keep off the cover.

Please do not cover the lid with any large objects.

Roof and Rainwater

The pumping unit is **NOT** designed to accommodate stormwater. The District Council does not permit the discharge of stormwater into any sewerage system. Stormwater should not have been discharged into your septic tank, as it will affect the efficiency of the system. If you notice the alarm triggering during rain events, it is possible a downpipe or stormwater drain is connected to the sewer system.

Building a Garage, Carport or Garden Shed

No temporary or permanent structure can be built over the pump discharge line, boundary kit or storage tank.

Building an Extension to Your House

The pump discharge line can be moved to accommodate extensions to the house or construction of a swimming pool, shed etc. When contemplating any modifications to the property, the owner needs to check the property sewerage service diagram to see where the on-site installations are, plan the property extensions with that in mind and phone the District Council to determine what will be involved in any relocation of the system.

You should not build over the storage tank, discharge line and boundary kit. Please phone the District Council on 348 4199 to discuss options for relocation of the sewerage system.

Landscaping Your Garden

It is important that sufficient space is available to access the unit at all times, in case servicing is required.

Landscaping over the pump discharge line is permitted, provided the storage tank cover remains accessible for service, and is not covered or situated in a low lying area where water may pond around the lid

If the pump discharge line requires repairs, the council will need to access the pipe. If landscaping needs to be removed, we will endeavour to minimise disruption to the garden.

Installing a Swimming Pool or Large Spa

If you already have a swimming pool or large spa, you should continue to dispose of water or backwash from that installation to ground soakage.

If you are required to dispose of water from your swimming pool or large spa pool, or backwash water to the sewerage system due to geotechnical and/or flooding issues, please contact the District Council and discuss options for discharging into the pressure sewerage system. If you discharge into the pressure sewerage system at a rate greater than the pumping capacity of the system, your alarm will sound and overflows from the house plumbing or storage tank cover could occur.

Large Gatherings of People

Sudden loads on the system, either through parties or large numbers of visitors staying overnight, will not impact upon the pressure sewerage system. The unit will pump more frequently to cope.

Please read on for detailed information about the grinder system components on your property

Parts of Your Pressure Sewerage System

The pressure sewerage system comprises five main parts:

1. A boundary valve assembly inside a toby located just inside or outside your property boundary, and collectively known as the boundary kit,
2. A pumping unit inside a storage tank,
3. A discharge line from the storage tank to the boundary kit,
4. The electrical power controls and alarm,
5. The house wastewater line.

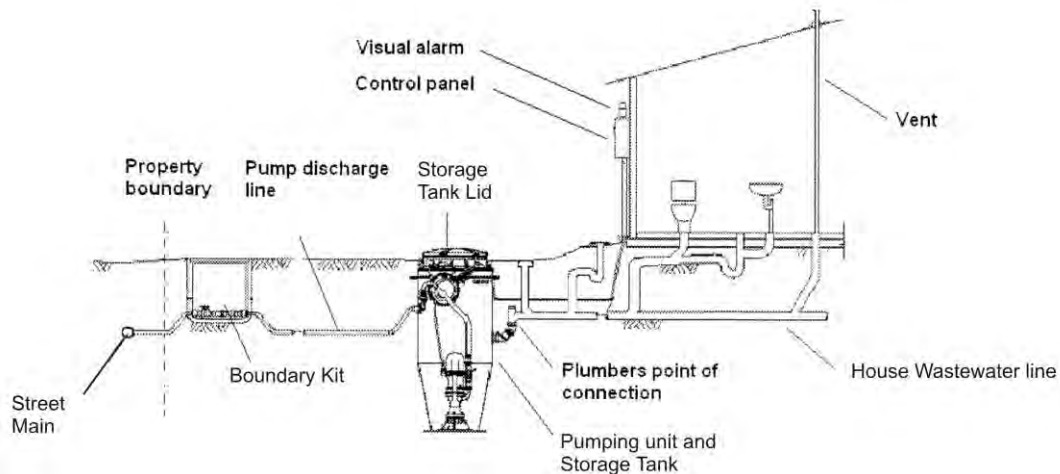


Figure 1 - Typical On-Property Pressure Sewerage System

Boundary Kit

Between the pump discharge line and the street main a one-way valve and isolation valve has been installed. This will:

- Prevent flow from other properties entering your service line,
- Allow your property to be isolated for repairs to be done,
- Allow flushing of the system if required.

Under no circumstances should you operate these valves.

Pumping Unit

The grinder pump unit is housed within a polyethylene storage tank placed on your property. Within the tank there are mechanical and electrical components that control the system. The small grinder blades at the inlet to the pump are able to break up sewage solids and allow them to be pumped through the discharge line to our sewer street main. Most of the storage tank is buried below ground, but the lid needs to protrude from the ground to allow access for servicing and ventilation into the pump chamber.

The storage tank should protrude about 120mm out of the ground at all times. This will allow pressure equalisation of the pump unit and access for service calls when required.

The storage tank lid should not be buried or covered in any way.

Pump Discharge Line

The pump discharge line connects the pumping unit to the boundary kit. This line is used to discharge sewage from the property.

The pump discharge line should not be moved or altered in any way.

Electrical Power Controls and Alarm

The power and control functions for the pump are located in a locked panel mounted on the wall of your house or garage, near the storage tank. A generator connection and switch is located next to the panel for the use of the District Council in circumstances where power to your house or local area is disrupted for a lengthy period.

The electrical cable between the house, the alarm panel and the pump chamber is located in a duct buried 300 – 400mm below ground level. Please be careful when you or other contractors undertake excavation work on your property, refer to the Council's property files for "as-built" information regarding the location of the electrical cables and the discharge line.

Only District Council personnel are to work or service any of the electrical power and alarm installation. Do not attempt to connect any power supply to the generator connection point.

The electrical equipment inside the control/alarm panel and the alarm light run on 240-volt power. Please notify the council of any damage to this installation and stay away from damaged parts.

Household Wastewater Line

The household wastewater line collects waste from your kitchen, toilet, and other sanitary fittings, and drains under gravity flow to the storage tank. The household wastewater line is your responsibility and when damaged you should contact a licensed plumber or a licensed drainlayer, depending on where the problem is, to fix any faults.

How a Pressure Sewerage System Works

Pressure sewerage systems differ from conventional gravity systems in that they depend on a pumping unit to remove the sewage from the property. A small pumping unit is installed on the property to pump household sewage into our sewerage network located within the street.

The pumping unit works in the following manner:

- The pump has a small grinder that grinds up solids in the tank so they can be passed through the pump discharge line to our street main.
- The storage tank will hold household sewage until its level reaches the 'pump-on' level which is x% of the total storage in the tank. When this occurs, the pump will automatically turn on and pump the sewage to the street main.
- When the level falls to a certain pre-set level, the pump will automatically switch off.
- Typically, a pumping cycle will take between one to three minutes, and will occur several times per day around the periods of high usage.
- If the pump fails to operate, the level of sewage will continue to increase until it reaches an 'alarm level' where both an audible (sound) and a visual (light) alarm will automatically turn on. This level is about one third of the total capacity of the tank, so there is still a lot of capacity within the tank once the alarm is activated.
- The alarm (both sound/light) may also be activated as a result of power returning after a power outage. In all cases the alarm will automatically shut off when the storage level drops below the alarm level. The alarm is in the small locked panel that has been attached to the house. The alarm can be switched off by pressing the small button under the alarm panel.

- The storage tank has a minimum capacity of 660 litres and when combined with household drains should give at least 750 litres of total storage. Much of this storage capacity is above the alarm level activation point. Therefore you can continue to use essential services after the alarm sounds, although we strongly recommend you keep water use to a minimum and avoid activities which are heavy water users until the system is repaired.