

Ramara Servicing Connect

Grinder Pump Information

This document provides property owners with key information about grinder pump requirements, installation timing and answers to frequently asked questions. Please review carefully and keep this for reference.

A Building Permit (for all plumbing modifications) from the Township of Ramara will be required prior to the installation of the grinder pump system. Please refer to the Building Permit Information Package.



What is a Grinder Pump?

Residents connecting to the Low Pressure Sanitary Sewer (LPSS) must install a grinder pump system and connect it to a lateral assembly at their property line. Typically, a grinder pump system consists of a grinder pump installed in a small below-ground pump basin made of high-density polyethylene (HDPE) with an above-ground control panel to operate the pump and notify homeowners of operating alarms.



Who will be Involved in the Grinder Pump Installation?

- Impacted Residents
- The Township Building Department
- Contractor



When will the Grinder Pumps Need to be Installed?

Residents will need to connect to the system within three years. Grinder Pumps can be installed once a Building Permit has been issued. This will serve as your “Ready to Connect” notification. Please refer to the Building Permit Information Package for more information.



Where will the Grinder Pumps be Installed?

The grinder pump will be installed outside on your private property. They will be located inside a tank with an access cover that should be accessible for maintenance and inspection purposes. The exact location will depend on your plumbing configuration and lot requirements.



How will the Grinder Pumps be Installed?

The grinder pump will need to be installed by a professional contractor following the approval of a Building Permit. Choose a contractor who:

- Has experience with grinder pumps
- Is licensed, insured, and WSIB-registered
- Provides a detailed, written quote
- Includes all work (installation, decommissioning, restoration) in the contract

Get multiple quotes to ensure a fair price and availability.

Grinder Pump Technical Requirements

The LPSS was designed for a semi-positive displacement grinder pump capable of pumping low flows at high head, or high pressure. Pumps installed by a homeowner must be able to pump 0.69 to 0.95 L/s (10.9 to 15.1 USGPM) at 0 to 45 m (148 ft) head to be compatible with the LPSS. The connection at property line is 38 mm (1.5 inches). A complete pre-packaged grinder pump system meeting all design criteria can be purchased from Environmental One Corporation. Residents wishing to install an alternative grinder pump system are welcome to do so but must submit with their Building Permit application proof of its compliance with the above design criteria. See Grinder Pump Technical FAQs for alternates.

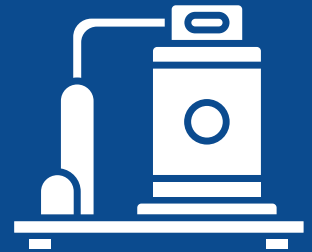
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Grinder Pump Technical FAQs

What type of pump do I need?

The grinder pump station should generally conform with the Environment One (E-One) model DH071-93 package pump station referenced in the Township Engineering Design Standards and on Detail Drawing STD. No. 128. For more information, including a copy of this drawing, please refer to the Building Permit Application Information Package.

The design of the low-pressure sewer is based on the operating performance of this model so it is compatible with the overall sewer servicing design. The pre-packaged unit is available in several depths so installation is somewhat customizable to existing service depths.



Are there other pump options?

An alternate grinder pump with very similar performance specifications to the E-One is available in the Zoeller Model E810. The manufacturer does not list a pre-packaged station using this specific model of pump, so availability and installation should be discussed with your contractor and the manufacturer or local supplier. The operation of several other pumps from different manufacturers were reviewed for compatibility with the low-pressure sewer to provide residents with additional alternatives.

While these options are compatible, they operate at a lower operating head than the E-One and Zoeller options. Some are also available as pre-packaged systems. Any alternatives should be discussed with your contractor.

- Zoeller Model WDH820
- Flygt 3068 with 5.4" Impeller
- Barnes OGVF2022CE Pentair HP G200 (5" Diameter)
- Liberty Pumps LSG 200
- Myers Model WGL20

What is a pre-packaged system?

A pre-packaged system typically includes several of the components of a grinder pump station in a pre-assembled package to simplify installation. Typically, they will include the tank, pump, float controls, internal piping and wiring so installation is simplified.

Where can I get one of these pumps?

It is best to discuss sourcing the pumps with your local contractor; however, each manufacturer will typically provide contact information for a local supplier on their website or at their contact number.



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Grinder Pump Technical FAQs

What does “Lower Operating Head” mean?

All pumps operate within a performance range called a pump curve. At one end of the curve there is the highest flow a pump can reach and at the other end the highest pressure a pump can push against before the flow stops. “Head” is another term for this pressure. The pumps with a lower operating head will stop flowing at lower pressures than the other models discussed.

How do flow and pressure levels impact my water service?

The pressure in a low-pressure sewer system varies depending on how many pumps are actively pumping at any given time and their location. The more pumps that are turned on, the higher the pressure can get at the upper reaches of the system. This pressure affects how fast a pump can empty its storage tank.

Is there anything else I should know?

Generally, low-pressure sewer pipes are installed about 1.7 metres below ground to prevent freezing. In some areas with higher groundwater levels, the service line may need to be installed at a shallower depth of about 1.2 to 1.5 metres. If your service line is shallower than 1.7 metres, we recommend adding insulation to help protect it from frost and freezing.

What if everyone’s pump turns on at the same time?

Although the probability of this situation is low, the pumps closest to the outlet of the low-pressure sewer will empty first and pressure in the system would gradually be reduced upstream. In this case, the check valve installed on your service will prevent flow coming back through your line until normal operation can resume.

Can the contractor or property owner operate the new shut off that is at the property line?

No, this shut off valve is Township infrastructure and must be maintained by the Township. The Township's contractor, OCWA, will operate this valve. This valve should be at or near ground level. If the valve is raised and you would like it lowered, please contact the Township Office.

What are the minimum specifications for the grinder pump?

Flow: 0.69 to 0.95 litres per second (10.9 to 15.1 USGPM); Head: 0 to 45 metres (148 feet); Must be a semi-positive displacement grinder pump capable of pumping low flows at high head. The connection at the property line is 38 mm (1.5 inches) High Density Polyethylene (HDPE) pipe. The pipe is 38 mm (IPS) OD HDPE, DR 11.

Will the Township approve my pump choice?

Yes. As part of your Building Permit application, you must provide the pump’s manufacturer and model so the Township can confirm compliance.

When can I install my grinder pump?

Installation should not occur until you receive your Building Permit. Inspections must take place while the grinder pump and lateral are open and visible. Installing it too early could lead to rework or non-compliance.

Where does this need to be installed?

This will vary on a site-by-site basis, but typically the best location is on the pipe between the dwelling and your existing septic tank or holding tank. Location and layout of connections should be discussed with your contractor as part of the permit application process.

Can I use my existing septic tank/holding tank?

This may be possible on a site-by-site basis depending on the age, condition, type and location of tank you have. Where feasible, the tanks may need to be partially decommissioned to reduce how long sewage is stored before pumping and how long the pump will need to run to empty the tank. This option should be reviewed with your contractor and the Township’s Building Department.



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Grinder Pump Operation Best Practices

A grinder pump plays an important role in moving wastewater properly and efficiently into the main sewer system. Sewage grinder pumps take the solids and liquids from the home and grind it up so that it can be pumped into the main sewer pipes that lead to a wastewater treatment facility. Ownership and responsibility for continued operation of the pump remains with the property owner.



Do not flush anything other than wastewater and toilet paper. This includes avoiding grease, oil, wipes, feminine hygiene products, hair, cotton swabs, and any non-degradable items like plastic.



Use water-efficiently and spread out high-usage tasks. Reduce strain on the pump by avoiding running multiple high-water-use appliances, such as a dishwasher and washing machine, at the same time.



Understand your system's alarm. If the alarm on the control panel activates, immediately stop using all plumbing fixtures and call a professional for service.



Schedule annual professional inspection. Hire a certified plumber or contractor to check the pump and control panel, clean the system, and replace any defective parts.



Regular maintenance is key. Professional service should include flushing the system, checking valves, and inspecting the pump itself.

Going Away?

If you go away on vacation for a length of time, flush the system before you go away. Run clean water into the unit until the pump activates. Turn off the water and allow the grinder pump to run until it shuts off automatically. This process will clean out the pump and the pipes, leaving the tank filled with a minimum amount of clean water. This will also help to minimize odours that could accumulate during vacation.

Power Failures

If a power failure affects your home, your grinder pump will also lose power and will not operate. The grinder pump tank has a small holding capacity. Interior water use should be severely limited until power is restored. Similar to a septic or holding tank, the homeowner could install a backup generator to maintain function of the grinder pump.

Please note, you will still have water during power outages. However, if the grinder pump is without power, water use during the outage can lead to overflows and sewage back up into the home, which is the homeowners' responsibility.