

Grinder Pumps

Some very important information follows. All residents who have grinder pump systems need to review this page to insure the proper functioning of your grinder pump sewage system. If you have grinder pump problems call the Royal Oaks Operations Center* at 865-681-3229. In emergencies you can call the head of Operations directly (currently Chuck Sullins at 865-368-4674).

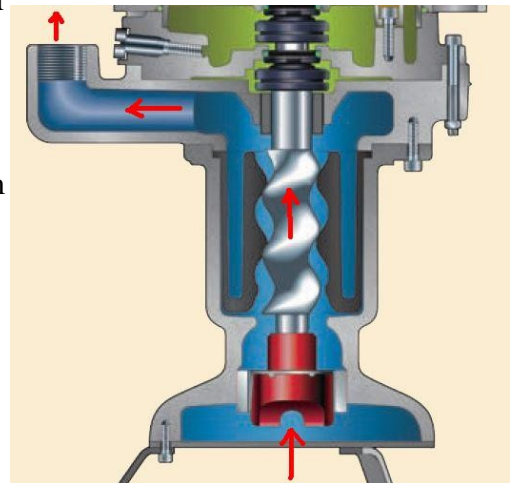
Many homes in Royal Oaks are on a low-pressure waste water collection system. These homes use a grinder pump to grind the waste into a fine slurry, and pump it through small pipes to the larger sewer lines in the street. The pump operates when waste inside the holding tank reaches a specific level. The pumping action is produced by a corkscrew-shaped rotor that turns in a rubber stator. Low-pressure sewage systems are often more economical than gravity lines, but they require homeowners to become knowledgeable about proper use.

Protect Your Pump

The grinder pump can handle wastewater that is discharged to the sewer from the kitchen, bathroom or laundry. However, several chemicals and materials should never enter the grinder pump sewer system. Note how small the path is for the wastewater in the diagram!

CAUTION: Never put any of the following materials into sinks, toilets or drains as these materials may clog your system or create unsafe conditions in your lines or tank:

- Kitty litter, coffee grinds, gravel, sand (including aquarium stone)
- Hair clippings, coffee beans, egg shells, cigarette butts
- Feminine products, personal cleaning wipes, dental floss
- Diapers, socks, rags, cloths, Q-tips
- Lubricating oil, grease, cooking oil, cooking fat (lard, oil, grease)
- Glass, metal, wood, seafood shells
- Plastic objects (toys, eating utensils, etc.), rubber or latex
- Strong chemicals, toxic, caustic, or poisonous substances (this includes Drano, Mr. Plumber, etc.)
- Any explosive or flammable material
- Gasoline, kerosene, fuel oil, paint, paint thinner, anti-freeze
- Degreasing solvents



Important Parts

Metal Rotor and rubber Stator

Strong chemicals cause the rubber pump stator (shown left) to swell, and then it has to be replaced. Hard materials that cannot be ground small enough cause the pump to fail and the tank to overfill. These materials also score the equipment. This decreases pumping ability until the pump fails to provide the required pressure. Again parts have to be replaced.

Other Contacts: If you are NOT on a grinder pump system, then you are on a gravity sewer system, and should contact the Maryville Water Quality Control office during business hours, 7:30 to 4:00, at 865-273-3300.

Please do not plant flowers or shrubs near the grinder pump cover. Before doing any digging in the pump area, call our Operations Center. Older grinder models have a small breather vent located below the cover. It is important to keep this vent free of debris such as mulch or grass.

Soggy ground around the pump area may indicate the tank has overflowed. Contact the Operations Center at 865-681-3229 as soon as possible.

Suggestions: Run water before and after using your garbage disposal to provide a more dilute slurry for the grinder pump. Use baking soda followed by vinegar as a “drain cleaner,” when needed, to minimize chemicals attaching to the grinder pump parts.

Repair / Installation

When new homes are built, the developer pays for the grinder pump/storage tank unit, but ROPOA's Operations Center crew installs and services it. If there is a problem in the pump or between the pump and the sewer line at the street, it will be repaired at ROPOA's expense. If the problem is in your house, it is your responsibility to contact a plumber at your own expense. Homeowners should ask their insurance agent for a “sewage backup protection rider” to be added to their standard homeowner's policy.

While on Vacation / Periods of Disuse

If your home will be unoccupied for more than a couple of weeks, purge the system just before leaving by running water until the pump cycles off and on for about five minutes, then stop the water and wait for the pump to stop. This should prevent gelling of any solids in the tank so they will not clog the pump when you return.

CAUTION: Do NOT turn off power to the unit. If power has been discontinued to the unit at any time, contact the Operations Center at 865-681-3229.

Shared Sewage Systems – Some homes share sewage tanks. If you have a grinder pump related problem, please be sure to let your neighbor know about it too.

Power Failures

If your home has a power failure your grinder pump will not operate. The pump tank has a certain amount of holding capacity, but interior water use should be severely limited until power has been restored.

If the Alarm Sounds...

If there is a grinder pump failure, the tank which contains the pump will become too full. An alarm horn and light in the panel box will turn on. You should:

-- **Silence the alarm** by pushing the button underneath the box on newer E/One models, or the rocker switch on the front of Liberty models. The alarm should stop, but the light will remain on until the pump is repaired.

-- **Call our Operations Center at 865-681-3229.** Describe your problem. Leave your name, phone number, and address.

-- **Discontinue water use** to prevent overflows

-- **Wait 15 minutes** before taking further action. A high level of water usage will sometimes cause the alarm to come on. This situation is self-correcting. If the pump is operating correctly, the wet well will

automatically be pumped down and the alarm light will turn off.

-- **Never attempt to open** the tank cover or the electrical panel box. Caution: Electrical shock or damage to the system may occur.

Nuts and Bolts: Technical Details

A fiberglass or high density polyethylene sewage holding tank has been installed underground on your property and a sewage grinder pump is housed in the tank. Some tanks have more than one pump as they are shared with your neighbors. The tank cover is the only part that shows above the ground. All of the wastewater from your home flows into the buried tank. When the tank fills to a pre-set level, the grinder pump automatically turns on, grinds the waste, and forces it out of the tank and into the sewage system. The grinder pump normally will run for a few minutes and will automatically turn off when the tank has been emptied. The pump is programmed to operate in cycles, rather than continuously. Cycles are determined by the amount of water used. During a busy day the grinder pump will turn on and off to empty the tank 20 to 30 times (or less). The grinder pump is powered by electricity and is connected to the electric service lines usually at a panel box near the pump. Grinder pump electricity charges are usually quite low.

By following these guidelines, you can ensure that your low-pressure system will provide many years of safe, reliable service.



The information above is excerpted from Grinder Pump handouts from the ROPOA “Streets and Sewers Committee,” from the Anne Arundel County, MD Dept. of Public Works website, and from the Environment One User Instruction Sheet. Other information is from the City of Maryville. Researched by Bill Benson and reviewed by Chuck Sullins, Mike Bendert and Bob Betts in April 2011. (Updated slightly to be more generic in 2023.)