



OWNER'S MANUAL

OASIS BIOGILL® COMMERCIAL WASTEWATER
TREATMENT SYSTEM

PLEASE READ

Congratulations on your purchase of the Oasis BioGill® Commercial Wastewater Treatment System.

We urge you to fully read this Manual. The contents are important to your safety and the operation of the Oasis BioGill® Commercial Wastewater Treatment System. Keep this Manual in a safe place for future reference.

If you have questions regarding the safety and operation of your Oasis BioGill® Commercial Wastewater Treatment System, contact your local authorised service provider or Oasis Clearwater directly.

- Do not attempt to service components of the system yourself, call your accredited service provider.
- Only authorised service personnel are to remove covers on the treatment system.

This Manual is to be read in conjunction with:

- BioGill® Tower Quick Start Guide.
- BioGill® Tower Installing, Commissioning and Operating Manual.

Important: All work must conform to local building, electrical and plumbing code.

INSTALLER:

CONTACT:

SERVICE PROVIDER:

CONTACT:

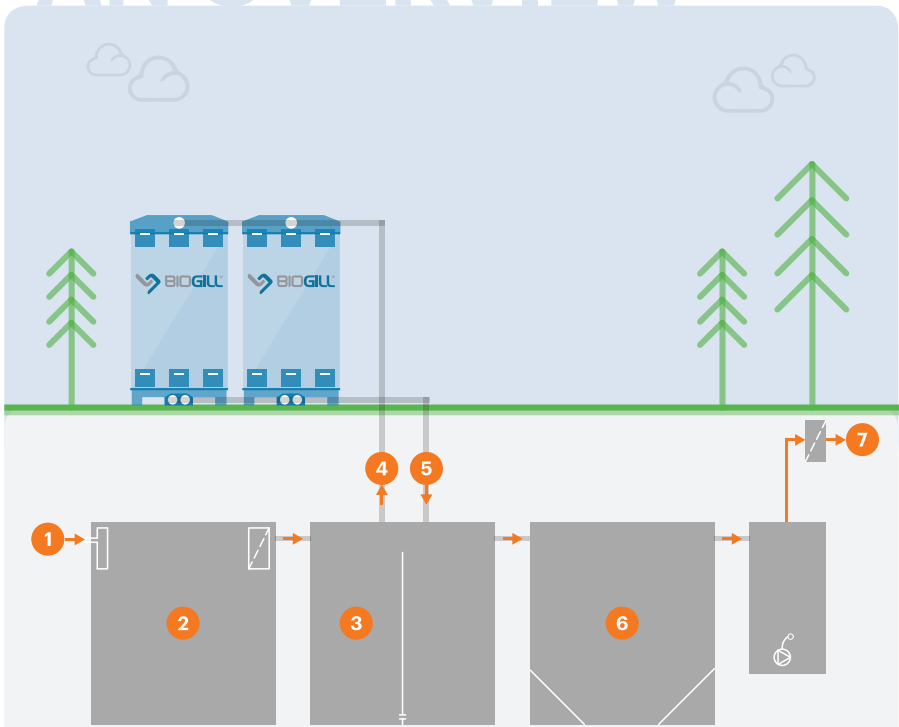
INSTALLATION ADDRESS:

INSTALLATION DATE:

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AN OVERVIEW



1. Wastewater enters from dwelling.
2. Settling chamber wastewater is filtered.
3. Anoxic chamber.
4. Pumped into the BioGill® unit(s) using electric pump(s) for aerobic secondary treatment.
5. Wastewater gravity feeds to the recirculation chamber, feeding back to the anoxic chamber.
6. Treated wastewater enters final settling chamber.
7. Automatic pumping out for dispersal to the irrigation field.

Note: Diagram for illustration purposes only and not to scale, to show how the Oasis BioGill® Commercial Wastewater Treatment System works. Process flow may differ from one location to another.

HOW THE SYSTEM WORKS

The Oasis BioGill® Commercial Wastewater Treatment System comprises of a flow balance tank (where applicable), treatment tanks and a pump station, which are buried—and BioGill® treatment unit(s) to treat the wastewater (above ground).

From the flow balance tank (where applicable), the wastewater first enters a settling chamber where it is filtered before it enters an anoxic treatment chamber. From there it is pumped to the BioGill® unit(s) using an electric pump(s) for aerobic secondary treatment.

The wastewater then gravity feeds to the recirculation chamber where it feeds back to the anoxic treatment chamber for multiple passes through this section of the system. Treated wastewater overflows from the recirculation chamber into a final settling chamber from where it overflows to the irrigation chamber for dispersal to the irrigation field. Pumping out occurs automatically once a pre-set level is reached.

The BioGill® units are an above-ground, attached growth bioreactor that supports the growth of a biofilm that treats the wastewater without the need for aeration blowers. The patented nano-ceramic media provides ideal conditions for the growth of microorganisms—naturally occurring bacteria that feed off the wastewater stream.

The system is complete with a high quality audio-visual alarm in case of system malfunction.

PUTTING STUFF INTO THE SYSTEM

Introducing harmful matter into the system may make the system less efficient or stop the treatment process by destroying the biomass.

Substances that reduce the efficiency or stop the treatment process can be grouped into two groups, prohibited matter and limited-use substances. While the Wastewater Treatment System will process most domestic waste, it cannot process everything and the following information will maximise the system's efficiency and reduce the time period between primary chamber pump-outs.





Prohibited Substances

These substances are detrimental to the system's ability to process wastewater, even when present in small amounts.

Prohibited substances include but are not limited to the following:

Do not introduce the following prohibited substances into your Oasis BioGill® Commercial Wastewater Treatment System:

- ✘ Plastic or rubber products, petroleum products such as motor oil, paint, paint thinner, petrol and solvents.
- ✘ Non-biodegradable products, such as sanitary napkins, condoms, baby wipes and disposable napkins.
- ✘ Toxic substances such as pesticides, herbicides, strong disinfectants and strong caustic drain cleaners.
- ✘ Large amounts of paper products, such as paper towels and synthetic fibre-reinforced products advertised as having 'wet strength'.
- ✘ Animal fats, such as bacon grease or lard (normal cleaning of pots and pans is acceptable).

Please note: If the building contains a commercial kitchen or is used for catering etc. then an approved grease trap will need to be installed between the kitchen and the Treatment Plant.



Motor oil



Baby wipes



Sanitary products



Limited-use substances

Limited-use substances in large concentrations will reduce or stop the treatment process. The same substances in smaller concentrations will have no harmful effect on the treatment process.

You may use the following substances without harming your Oasis BioGill® Commercial Wastewater Treatment System if you use the substance according to the manufacturer's directions, don't use these substances very often, and do not introduce concentrated doses into the system.

- ❗ Laundry bleach.
- ❗ Detergents with bleach.
- ❗ Household cleaners containing sodium bactericides.

Examples of household cleaners containing sodium bactericides include:

- ❗ Pine oil (disinfectant used in general purpose liquid cleaners).
- ❗ N-alkyl dichlorobenzyl ammonium chloride (disinfectant used in detergents and spray cleaners).
- ❗ Sodium hydroxide (chemical used in drain openers and cleaners).
- ❗ Sodium dichlor-s-triazinetrione (powdered bleach used in scouring powders and automatic dishwasher detergents).
- ❗ Ortho-phenylphenol (bactericide used in tub and toilet bowl cleaners).

NOTICE: Introducing harmful or damaging chemicals into your Oasis BioGill® Commercial Wastewater Treatment System may void the Warranty.

Acceptable substances

Substances that are considered to be typical domestic wastewater are human waste, bath and dish water and edible food waste. **The following substances may be used regularly without harming your Oasis BioGill® Commercial Wastewater Treatment System:**



Laundry detergents without bleach



Dishwashing detergents without bleach



Toilet paper



Household cleaners containing sodium bicarbonate, sodium carbonate and sodium borate.

Waste food

Some food waste, whether or not it is run through a waste grinder will not be treated by the system, but will remain in solid form and fall to the bottom of the septic tank. Therefore, you should consider not using a waste grinder system.

Do not dispose of these food items through the Oasis BioGill® Commercial Wastewater Treatment System:



Animal bones



Melon rinds



Corn cobs



Eggshells



Pips and seeds

✘ Any other non-edible food waste.

Disposing of these items through the system will increase the frequency of required clean outs.



SYSTEM MAINTENANCE AND MONITORING

The Oasis BioGill® Commercial Wastewater Treatment System operates automatically and continuously. The user should monitor the status of the system, substances introduced into the system, and the frequency of required pump-out as determined by the authorised service provider.

If the instructions in this Manual are carefully followed, the Oasis BioGill® Commercial Wastewater Treatment System will provide years of service.

For the owner, operational procedures for the Oasis BioGill® Commercial Wastewater Treatment System are minimal. Normal operation of the unit requires continuous operation of the BioGill® feed pumps and regular discharge of wastewater to the unit.

Your Oasis BioGill® Commercial Wastewater Treatment System can be supplied with a service policy, which includes four inspection/service calls (if requested) per annum to ensure proper operation of the system. During these service calls, the authorised service person will check the system for proper operation and perform preventative maintenance including filter cleaning, cleaning of the pump intakes, wash down of excess biogrowth on the BioGill® sheets, and inspection of the control panel light.

The service provider will also measure the solids level in the septic tank and recommend pump-out when necessary.

Primary chamber

Periodically, waste will need to be removed from the primary chamber using normal pump-out procedures. Only persons experienced in wastewater treatment or service are authorised to remove the chamber cover.

Alarm warning

The System is equipped with a red system status light on the control panel and an audio alarm. Should the red light flash and the alarm activate, check the breaker to ensure it has not tripped. If the breaker has tripped, you can attempt to reset it. If the breaker fails to remain reset, call your authorised service provider. The alarm may be shut off by pushing the OFF button. Pushing the OFF button will not reactivate the unit, only silence the alarm.

Pump stoppage or electrical power outage

The Oasis BioGill® Commercial Wastewater Treatment System requires a constant flow to the BioGill® tower(s) to provide food for the biomass. Should the pump stop, flow through the towers will stop, cutting off the supply of what the biomass needs to operate. A prolonged absence of flow will seriously affect the condition of the biomass.

If your property is without electricity, call your electricity company. If the electricity is off for more than 48 hours, call your authorised service provider as well for treatment system advice.

If your house has electricity but the pump is not operating, contact your authorised service provider.

Flooding

Flood water may cover the septic unit, the controller housing, or both, affecting the electrics, if the system is installed in a low-lying area.

Danger

Electrical equipment located in flooded areas presents an electrical hazard. Should the unit become flooded, call your service provider. Stay out of the flooded area.

Evaluation of system performance

The Oasis BioGill® Commercial Wastewater Treatment System operates automatically and continuously. There are no operating procedures for the user of the System to perform. However, as with any appliance or equipment, simple periodic checks can and should be made to aid in the prevention of costly repair problems. Generally, the wastewater treatment system unit can be checked by sight and smell.

The Oasis BioGill® Commercial Wastewater Treatment System is generally odour-free. If smells are evident please check system usage, chemicals, etc. If smells persist, please call your authorised service provider.

Visual evaluation

Wastewater backup is characterised by wastewater flowing back into the house or slow movement of wastewater in the drains. This may indicate a problem with your wastewater treatment system unit. Identify where the backup is occurring within your plumbing system. If you cannot locate material blocking the drain, contact your authorised service provider.

No use for an extended period

If there is a stop in usage of the Oasis BioGill® Commercial Wastewater Treatment System, water should continue to be recirculated through the BioGill® unit if wastewater treatment is to resume within 1-3 weeks and the unit is not being moved or re-located.

Stopping recirculation of water through the unit without cleaning may result in odours and/or attract insects because of the biological digestion that happens to the remaining sludge attached to the gills. In addition, if the unit is to be operational again, it will take longer for the biomass to re-establish. Assuming the unit was fully operational prior to shutdown, the restart time generally takes 24-48 hours.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
The water alarm is ON.	An alarm condition has occurred. Look for below causes.	Push mute button to silence alarm.
	Pump failure.	Check levels in all chambers. Check pump is functioning. Check that the pump float is not jammed and is free of walls and any other obstructions which may affect functioning.
	Filter blocked.	Dismantle pump filter and clean.
	There is an obstruction in the discharge line from the system.	Check the effluent piping and lateral field piping visually or with drain cleaning equipment for an obstruction and correct.
	The flow rate to the system is too high.	Check the maximum flow rate to the system to see that it is within normal limits.

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Wastewater is backing up into the building sewer piping.	There is an obstruction in the building sewer piping.	Check the piping leading to the system visually or with drain cleaning equipment for an obstruction and correct.
	The tank requires cleaning and/or a pump out is required.	Check the sludge depth in the tanks to see if it is below required levels. If the depth is too great, have the tank pumped out and, if necessary, cleaned.
There is an unpleasant odour emanating from the unit.	The BioGill® feed pump is not operating correctly.	Check the pump, plumbing and power supply for proper operation.
	The system is overloaded.	Check the maximum flow rate to the unit to see that it is within normal limits.
		Check the quality and contents of the flow into the unit for any abnormal or prohibited substances.
The original cause for alarm has been corrected, but the flashing light remains ON.	The flashing circuit for the indicator light has not been reset by technician.	Reset flash circuit.

SERVICE AND WARRANTY

SERVICE PROCEDURE

Servicing should only be performed by a suitably qualified technician. If the technician requires extra information they should contact Oasis Clearwater directly.

LIMITED WARRANTY

No warranty is given as to the field performance of any system. This LIMITED WARRANTY applies only to the parts manufactured by Oasis Clearwater Environmental Systems and does not include any portion of the plumbing, drainage or installation of the systems, and does not include any travel or labour. Accessories supplied by Oasis Clearwater Environmental Systems, but manufactured by others, are warranted only to the extent of and by the terms and conditions of the original manufacturer's warranty. In no event shall Oasis Clearwater Environmental Systems be responsible for costs, expenses or damages of any kind whatsoever resulting from, or caused directly or indirectly by, defective components or materials manufactured by others.

This LIMITED WARRANTY is given to the ultimate consumer of the product. As herein, 'ultimate consumer' is defined as the purchaser who first has the plant installed, or in the case of a system designed for non-permanent installation, the purchaser who first uses the system. It is the purchaser's obligation to make known to any other consumer, the terms and conditions of this warranty. This warranty is a LIMITED WARRANTY and no claim of any nature shall be made against Oasis Clearwater Environmental Systems unless and until the ultimate consumer, or his legal representative, notifies Oasis Clearwater Environmental Systems in writing of the alleged defect and delivers the product and/or defective part(s), freight prepaid, to Oasis Clearwater Environmental Systems or an authorised service provider.

Oasis Clearwater Environmental Systems reserves the right to revise, change or modify the construction and design of the Oasis BioGill® Treatment System, or any component part or parts thereof, without incurring any obligation to make such changes or modifications in equipment previously sold. Oasis Clearwater Environmental Systems also reserves the right, in making replacements of component parts under this warranty, to furnish a component part which, in its judgement is equivalent to the part replaced.

SERVICING

Your system must be serviced by Oasis Clearwater Environmental Systems or an authorised service provider. If the system is not serviced at three monthly intervals, all warranties will be voided.

WATER INGRESS

All wastewater treatment systems are designed to treat controlled domestic (human) wastewater inflows ONLY. If the flows exceed design parameters due to wet weather (stormwater ingress, etc) or uncontrolled inflows (failed cisterns, automatic urinals, etc) all target design parameters will be void, and the system and or the disposal field may flood.

WARRANTY PERIODS

Oasis Clearwater Environmental Systems warrants each Commercial Wastewater Treatment System to be free from defects in material and workmanship for a period of two (2) years from the date of installation. Oasis Clearwater Environmental Systems warrants each Commercial Wastewater Treatment System concrete pre-cast tank for a period of ten (10) years from the date of installation.

Oasis Clearwater Environmental Systems warrants each System Pump for a period of two (2) years from the date of installation.

Oasis Clearwater Environmental Systems warrants electrical componentry against defective materials excluding labour for a period of one (1) year from the date of installation.

Oasis Clearwater Environmental Systems warrants the BioGill® membranes and housings against defective materials excluding labour for a period of five (5) years from the date of installation.

VOIDING OF WARRANTY

The warranty on mechanical and electrical equipment is void if flooding occurs.

The warranty on mechanical and electrical equipment is void if the system is not serviced at least every three (3) months by Oasis Clearwater Environmental Systems and / or an authorized Distributor and / or Service provider.

The warranty generally is void if there is material non-compliance with the Owner's Manual.

Oasis Clearwater Environmental Systems shall fulfil this warranty by repairing or exchanging any component part, (F.O.B. Factory), that is found to be defective, provided said component part has been paid for, warrantee has notified Oasis Clearwater Environmental Systems of the defect and the component is returned through an authorised distributor or service provider, transportation prepaid. There is no informal dispute settlement available under this LIMITED WARRANTY.



SERVICE RECORD

Date	Service Provider	Notes

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