

KYEEMA

Wastewater Pty. Ltd.

Homeowners Guide: Wastewater Collection and Treatment System

*Information on the Installation and Care for homes with
Community Wastewater Collection and Treatment Systems*



In partnership with:

**inno
flow**

crenco
SYSTEMS

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Congratulations!

Protecting the special character and environment at Kyeema Estate has been of paramount importance in the development of the estate. That's why a high performance, state-of-the-art wastewater system has been used to deal with the sewage from all homes in the estate.

Your home includes reliable, carefully engineered equipment supplied by Orenco Systems and Innoflow Australia Pty Ltd for the collection and pretreatment of household wastewater. A key component of the onsite system is the interceptor tank

When properly installed, the interceptor tank does a excellent job of decomposing household waste and recycling precious water resources.

As with any engineered system your onsite interceptor tank will work better and last longer if a qualified installer fits your system and a qualified service provider regularly maintains it. To ensure optimal performance of your onsite interceptor tank it will be supplied, installed and maintained by Kyeema Water Pty Ltd in association with Innoflow Australia Pty Ltd.

Kyeema Water and Innoflow Australia are totally familiar with your system, especially the service lines, conduits, and connections that get buried. Not only is it important that the interceptor tank is installed correctly but it is also important that the tank is used correctly. This manual outlines the correct household use of the system.

Your system will also work better and last longer if you learn what can go into it and what cannot. Little effort is required. Just read and practice the "do's and don'ts" in this Manual. Every member of your household should be familiar with these and if you have guests who want to "help out in the kitchen," be sure to tell them, too. With this preventive maintenance, along with periodic inspections, your onsite wastewater system should function for decades. And you'll save water and energy, too!

There's a place on the back of this Homeowner's Manual to record "Important System Facts & Contacts." If those have not been filled in for you, please record those now, before you file this Manual away.

ABOUT THE KYEEMA WASTEWATER SYSTEM

The wastewater scheme at Kyeema Estate provides the homeowner with a “flush and forget” service and requires no significant homeowner involvement.

The design and layout of the scheme revolves around a ProSTEP effluent sewer reticulated network. This pipe network has been installed throughout the Kyeema Estate to transport effluent from each lot to the central treatment plants (see Fig. 1). This watertight collection system offers many advantages over traditional sewers and is now considered best practice for community systems. The treatment plant is based on the well-proven AdvanTex® treatment technology. This is a reliable and robust treatment process that consistently treats the wastewater to an advanced level. It produces a clear, odourless liquid, useful for drip irrigation applications.

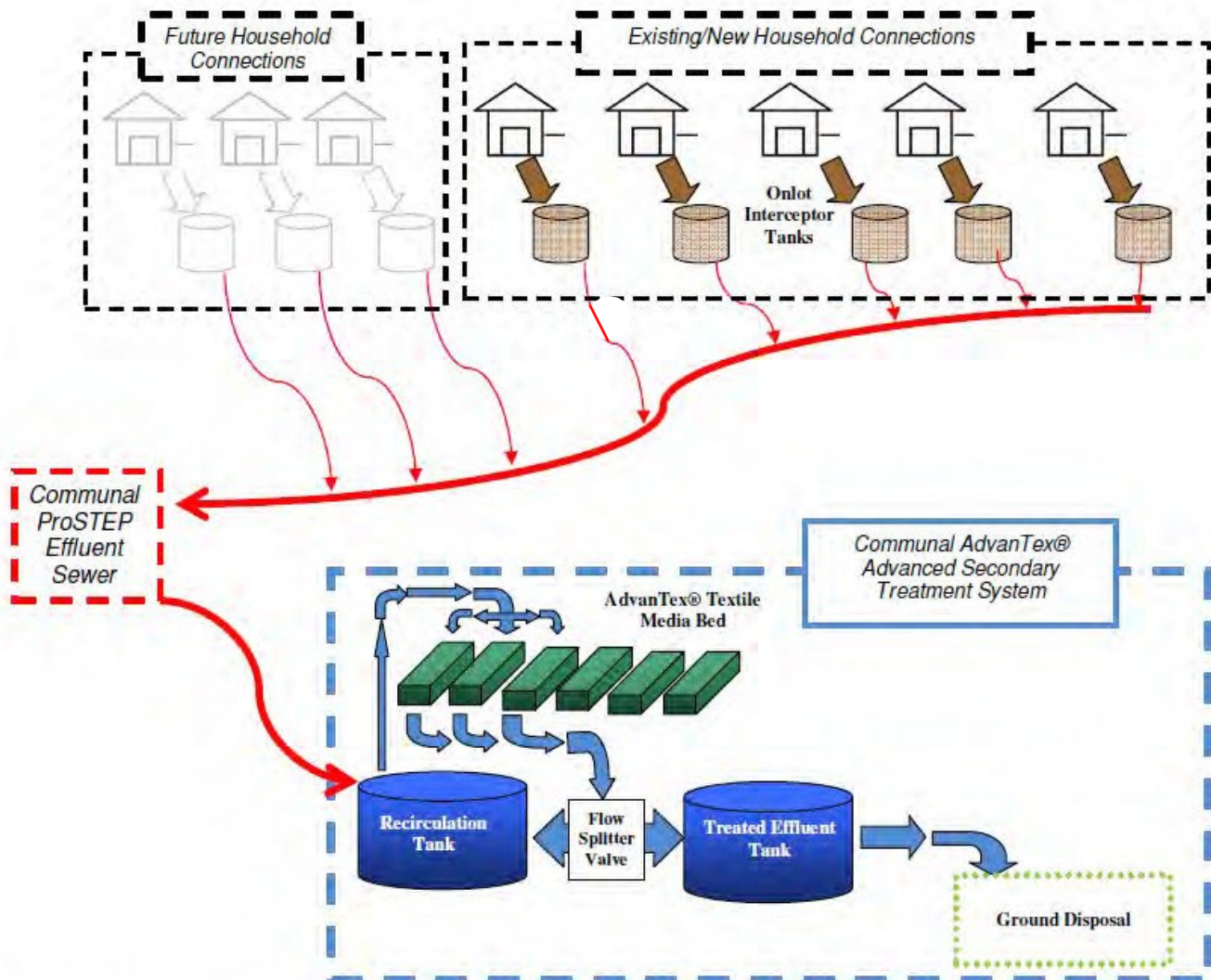


Figure 1 – Schematic of Overall Subdivision Wastewater Treatment Plant

WHAT YOU NEED ON YOUR PROPERTY AND WHY

The effluent sewer is dependent on a number of factors to ensure high performance and low maintenance.

To ensure that the effluent sewer network works properly, a specifically sized and constructed tank must be installed on each individual property to service the wastewater from the dwelling. This tank is called an on-lot interceptor tank that contains a specifically designed effluent filter, pump and discharge assembly and a control panel monitored by telemetry.

The following pages detail some information that will not only give you a better understanding of the on-lot part of the wastewater management process at the Kyeema Estate, but also provides some information to ensure the successful installation, and optimum operation of your on-lot interceptor tank.

The components that make up the on-lot component of the scheme at Kyeema Estate are described below and include:

- Conventional gravity sewer from the dwelling to the interceptor tank inlet
- Buried fiberglass interceptor tank and equipment
- Small diameter service lateral from tank to boundary service connection
- A service connection which connects the on-lot components to the ProSTEP effluent sewer

The key feature of the on-lot stage of the ProSTEP™ effluent sewer process is the interceptor tank. Its design has been optimised to ensure effective primary treatment and solids retention with minimal maintenance.

Interceptor Tank

The tank is specifically designed based on the number of bedrooms in the dwelling serviced by the system and on the optimum desludging period. For these reasons the interceptor tanks that must be installed on each property are generally of a larger size than normally manufactured.

The standard interceptor tank for each lot at the Kyeema Estate has a working volume of 3,800 litres; this tank is suitable for up to 6 bedrooms. Please note for the purpose of sizing interceptor tanks the following rooms are taken into account as bedrooms.

- Rumpus Rooms
- Games Rooms
- Studies
- Libraries
- Granny Flats
- Sleep outs

If you plan to build a house that is larger than 6 bedrooms, including any of the above, please contact Kyeema Wastewater Pty :Ltd, as special consideration will have to be made for the design and sizing of your interceptor tank.

The standard 3,800 litre fibreglass interceptor tank is a spherical moulded tank. Tank weighs ~400kg.

It is 2.4 metres in diameter, and 1.55 metres high (with a 450mm long access riser).

The tank inlet connection 100mm sewage pipe.

The tank invert level is 720mm below finished ground level.

Watertightness

One of the main reasons why the ProSTEP effluent sewer is able to utilise small diameter pipes is because we are able to eliminate stormwater or groundwater infiltration from occurring. The tanks are made under strict quality control and using specifically designed equipment to ensure no water gets into the tank.

By eliminating unwanted water into the system we not only use small diameter pipes but we save on power as less pumping is required, we save on central treatment plant size because we are treating a lower flow, and we save on land area for irrigation.

To ensure that the entire system remains free of unwanted stormwater or groundwater infiltration we recommend the tank is installed to ensure no water can get into the tanks either through the tank lids or air vents and that no stormwater downpipes are connected into the gully traps of the dwelling.

Biotube® Pumping System

The pumping system installed inside each interceptor tank is a fully integrated equipment package designed specifically for primary wastewater treatment.

Tank Siting

While the specific location of the septic tank on your property is flexible, there are a few considerations that should be made when siting your interceptor tank.

Access for septic tank clean-out truck

Access for service technicians

Fall from standard sewer

Distance to service connection (standard installation allowance up to 30 metres. Cost for longer runs charged at \$16.50/m (inc GST)

Location of control panel as close as possible to tank location

Away from vehicular traffic (foot traffic is ok)

Dedicated 16 amp single phases electricity supply to tank site

BLENDING IN THE INTERCEPTOR TANK

It's expected that most Interceptor tanks will be installed while the house is being built. Many questions are asked as to how the interceptor tank can be landscaped around, or hid onsite to ensure the tank is aesthetically pleasing. In general, the only requirements of the tank are:

- that there is easy access to the tank & control panel for servicing/system pump outs
- Ensure that the lids are just proud of ground level so nothing can fall into the tank when the lids are opened
- The tank is not installed in an area where vehicles will be driven
- The Control panel should be located as close as possible to the interceptor tanks.
- The tank should not be subjected to any further weight loading other than what would be expected with a 900mm cover of soil (the tank is rated for a soil cover of 900mm – no additional forces should be subjected to the tank – such include retaining walls/heavy machinery movements etc. within the vicinity of the tank)

Service Lateral

From the interceptor tank the screened effluent is pumped to the street service connection and then ProSTEP™ Effluent Sewer mainline via a service lateral. This lateral is typically 32mm - 40mm OD medium density polyethylene and will be supplied in conjunction with the interceptor tank.

Because each on-lot system is pumped at Kyeema Estate, no minimum slope is required for the line between the tank and service connection.

Service Connection

The final piece of equipment relating to the ProSTEP™ Effluent sewer on each property is the Service Connection, installed in conjunction with the ProSTEP™ Effluent sewer mainline. You may have seen the cream fibreglass lid covering the service connection located close to the property boundary next to the driveway.

This is an isolation valve system that was installed at the same time as the effluent sewer mainline. This service connection is used to isolate each tank from the main sewer line during testing, commissioning and routine maintenance.

It is important that the service connection be left in the open position once the ProSTEP™ on-lot interceptor tank has been installed, connected and all electrical testing and commissioning completed. This valve should be closed only by a service technician during routine maintenance or during an emergency.

Remote Monitor/Manage Control Panel

The control panel supplied with each interceptor tank at Kyeema Estate further reinforces the concept of “flush and forget” for the homeowner through the use of the VeriComm™ monitoring system.

VeriComm Control Panels give homeowners the peace of mind that comes from knowing their wastewater system is always being monitored. Through the use of a wireless internet connection to the panel, any problems or unusual conditions are alerted offsite to Innoflow Australia and Kyeema Water.

In addition to remote alerts and alarms, each VeriComm™ Panel constantly measures and monitors conditions on each lot at Kyeema to ensure optimal operation of the system at all times.

How it Works

Your control panel will “call in” once a month at a convenient time, unless there’s a problem with your system. If there’s a problem, it will call in immediately and report the problem to Innoflow Australia and Kyeema Water.

Audible Alarm

If you hear an audible alarm from the control box, or see the red light flashing call Kyeema Water.

INSTALLATION OF THE ONSITE EQUIPMENT

Kyeema Water will install the ProSTEP™ interceptor tank and equipment at a pre agreed fixed price and connect it to your house and the sewer line. Installation will include connection of the pumps, float switches and control panel.

SERVICING OF YOUR ONSITE SYSTEM

The ProSTEP™ equipment is designed to have minimal servicing requirements, and the maintenance procedures and periodic inspections are designed to ensure the long life and correct operation of the system. Typically this requires an annual service call.

Your system will be serviced and maintained by Kyeema Water for the annual fee included in Kyeema Water's "Fees and Charges" displayed on its website.

CARE OF YOUR SYSTEM

Your system will work better and provide trouble-free performance if you learn what can go in to it and what cannot. Just read and practice the “do’s and don’ts” that follow. Every member of the household should be familiar with these.

Do These:



Do feel free to place a bird bath, potted plant or other yard decoration on the tank riser lid, as long as it can be readily removed for maintenance. Landscaping or permanent structures should be planned prior to installation in order to ensure that the integrity of the system is not jeopardised.



Do keep accurate records of maintenance and service calls. The results will be valuable if system problems occur.



Do practice water conservation. By reducing the amount of water use, the life of the system will be increased and power consumption reduced. When possible, avoid doing several loads of laundry in one day. Take short showers and don't let water run unnecessarily while washing hands, food, teeth, dishes etc.

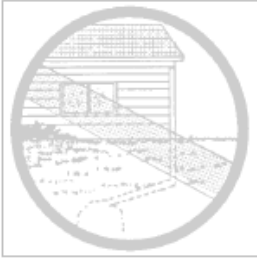


Do be aware that a simple toilet float can malfunction and result in over 8000 litres per day of wasted water. Use water-saving devices in the toilet tank and don't flush unnecessarily.

Avoid These



Don't accidentally dig up an underground utility line. Before digging, contact Kyeema Water to have underground utilities marked.



Don't connect rain gutters or storm drains to the septic tank or allow surface water to drain into it.



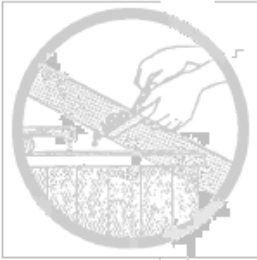
Don't use excessive quantities of water. Repair leaky toilets, taps or plumbing fixtures. Take shorter showers and use water saving devices such as low-flow fixtures and low-flush toilets.



Don't flush undesirable substances into the septic tank. Flushing flammable and toxic products is dangerous. Other materials such as paper towel, newspaper, cigarettes, coffee grounds, egg shells, 'wipes', sanitary napkins, hair and cooking fats, oil and grease are a maintenance nuisance issues. These materials will also increase the frequency of septage pumping.



Don't dump recreation vehicle (RV) waste into the septic tank because it will increase the frequency of septage pumping. RV wastewater dumped directly into the screened vault will clog the pump and plug the screen. Some RV waste contains chemicals that are toxic to the biological activity in the septic tank.



Garbage disposal systems are not recommended because they increase the frequency of septage pumping and generate higher wastewater flows. Compost food scraps or dispose of them in the rubbish. Collect grease in a container rather than disposing down the drain. Some items (egg shells, coffee grounds, tea bags, etc) are not biodegradable and should be disposed of in the rubbish.

Avoid these (continued)



Don't use septic tank additives. Additives do not improve the performance of the interceptor tank and can cause major damage to the treatment plant packed bed reactor or land application system. The natural micro-organisms that grow in the system are sufficient. These organisms generate their own enzymes for breaking down and digesting nutrients.



Don't drive over the septic system. If the septic tank is in an area subject to possible traffic, consider putting up an attractive barricade or row of shrubs to discourage traffic unless the tank has been equipped with a special traffic lid.



Don't enter the interceptor tank. Any work to the tank should be done from the outside. Gases that can be generated in the tank or the lack of oxygen can be fatal.



Don't dispose water softener backwash into the septic tank. The backwash brine contains high levels of chlorides that can destroy the micro-organisms and inhibit the biological digestion that occurs in the tank. The brine solution also interferes with the solid's sedimentation that occurs in the tank, and may increase the flow through the tank from 25 to 50 percent.

FREQUENTLY ASKED QUESTIONS

Q: Can I just get any tank?

A: NO. Only Interceptor Tanks Supplied by Kyeema Water Pty. Ltd. are permitted

Q: Will the interceptor tank smell or make a noise?

A: NO. When the tank is correctly installed and operating there are no offensive smells & no noise generated from the pump in the interceptor tank.

Q: Are there certain things to avoid putting down the sink or toilet?

A: YES. It is important to read the Do's and Don'ts section included in this manual for a list of cleaning products to avoid and some substitutes.

Q: Can I put anything in the tank directly?

A: NO. Never put anything in the tank.

Q: How often should the tank be pumped out and who is responsible for this?

A: The interceptor tank and filter equipment are engineered to require pump out only every 8-10 years under normal use.

Kyeema Water will monitor sludge build up as part of its annual servicing activities and advise the homeowner when the tank needs to be pumped out. Kyeema Water will arrange and supervise the pump out following agreement with the homeowner.

The cost of the pump out will be an homeowner's cost and will be charged in accordance with Kyeema Water's Fees and Charges displayed on its website.

The homeowner is free to arrange and supervise the pump out if preferred.

Q: Who does the servicing of the interceptor tanks and how often?

A: Preventative maintenance and inspection will be arranged by Kyeema Water on an annual basis.

Q: What do I do if an alarm, red light flashing or buzzer sounding goes off?

A: Notify Kyeema Water without delay.

Q: Is there a problem if there is a power cut?

A: The tank has over 24 hours emergency storage and so a power outage should have no effect unless it lasts for several days.

Q: Who should I call if I think there is something wrong with the interceptor tank?

A: Call Kyeema Water Pty. Ltd. Their details should be filled in on the "Important System Details and Contacts" form, included in this manual.

Q: Can you install the control panel anywhere?

A: The control panel should be installed as close as possible to the interceptor tank. (See photo on manual cover).

IMPORTANT ONSITE SYSTEM FACTS AND CONTACTS

SUPPLIER DETAILS	
Name	Kyeema WaterPty Ltd
Address	4078 Gundaroo Road, Gundaroo NSW 2620
Phone	0410 424 236
AUTHORISED INSTALLER DETAILS	
Name	Kyeema Water Pty Ltd
Phone	0410 424 236
ELECTRICIAN DETAILS	
Name	
Phone	
COUNCIL DETAILS	
Contact Name	Yass Valley Council
Phone	(02) 6226 1477
PROPERTY DETAILS	
Lot Number	
Address	
Owner Name(s)	
SYSTEM DETAILS	
Start-up Date (Effective Date)	
Control Panel Model	VCOM – S2(nz)RO
Control Panel RTU Number	
Tank Capacity	3800L