

# ADOBE LOOS & WORMS

*Organic Waste & Wastewater Treatment Systems*

## WHAT TO DO WITH GREY WATER?

### RE-USE SYSTEMS

A Greywater Re-Use System is a grey water system designed to treat domestic waste water excluding toilet waste. Councils are increasingly reluctant to allow home owners to dispose of grey water without at least Primary treatment. The days of being allowed to spray waste water untreated onto the garden have ended. Each State and Council have their own regulations and you will need to contact your local council to establish what they will permit alongside a waterless toilet. The following explains the situation primarily in NSW. Please note however that there are variations from State to State & from Council to Council.

Primary treated waste water must be disposed of in sub-surface trenches or evapo-transpiration (ETA) beds. Septic tanks are the main example of systems that treat only to the primary level. Secondary treated water can be disposed of below ground, for example, by drip irrigation lines under mulch. Disinfected secondary treated water can be disposed of at ground level and in some cases by spraying in pre-designated areas. Aerated water treatment systems (AWTS) treat to secondary level. Such systems include a disinfection unit, most commonly using chlorine. These systems typically cost around \$15,000 plus in ground installation. There are then quarterly inspection and maintenance fees plus wear and tear on the pumps and aerators and electricity costs totalling some \$800-1,000 or more per year.

In order to satisfy the Australian Standards (AS1547) requirements a grey water re-use system which cleans waste-water via a grease trap and gravity fed bio-mass filtration/treatment can be used. You can use the Greywater Re-Use System for disposal of the water via sub-surface irrigation or ETA beds. Suggest the Greywater Re-Use System to your geo-tech engineer and/or council.

Your council will probably ask you for a site plan. You may need to engage a Greywater Re-use Design consultant or geotechnical engineer to test your soil and produce a plan for distribution of the treated water. Make sure the consultant or engineer allows for the lower volume of water associated with a waterless toilet. This should result in trenches only 65% of the length of trenches for septic systems handling both black (toilet) and grey water. Shorter trenching means less cost to install.

We have found that some consultants & engineers have not had experience with composting toilets and so may not want to design a system around a waterless toilet. You should check before engaging anybody that they are happy to work with you in designing a system which is based on waterless toilets.

Kym Mogridge  
PO Box 751  
BEGA NSW 2550

[www.wormsloos.com.au](http://www.wormsloos.com.au)

02 6494 1051  
0427 277 249  
[info@wormsloos.com.au](mailto:info@wormsloos.com.au)

The Greywater Re-Use System is explained overleaf. If your council will not permit the installation of a Greywater Re-Use System then you can still propose a waterless toilet with treatment of grey water via a conventional small septic tank just for grey water.

The Greywater Re-Use System provides a simple and low cost effective means of treating grey water. Not only is the equipment low cost, but also, if your site is suitable, the only excavation work required to install the system will be the trenching. The ongoing costs will be less than those of a standard septic system.

The filtration tank, which is less than 1 cubic meter in size, consists of a pine bark coarse filter on top of a Bio-mass filter. The coarse bark filter removes large particles & fats from the kitchen, and lint from the washing machine normally caught in a grease trap. Compost worms can be used in this layer. The filtered material and bark will compost over time and should be removed (can be used in your garden) every 6-12 months and replaced with fresh coarse bark, available from your local garden nursery. The pine bark is separated from the Bio-mass filter by filter cloth. The Bio-mass filter removes the finer materials, polishes the water and reduces the organic content of the water. If your distribution area is down hill from the filtration tank your engineer/consultant should be able to design a distribution system without the use of a pump. If this is not the case you will need a pump well.

If required, a 200 litre pump well is best located in the ground alongside the filtration tank. We can also provide an alarm system to alert you to a non functioning pump if required.

*NB. If you can possibly avoid a pumped system this is preferable as pumps require maintenance and eventual replacement, whereas gravity systems have much lower maintenance requirements.*

The Greywater Re-Use System is a primary treatment system and therefore you will need to distribute the treated water into shallow subsurface irrigation trenches as specified by the engineer/consultant. Make sure the calculations of size do not include an allowance for toilet water, which would make them unnecessarily large and expensive. Your plumber can lay the treated water application area (distribution system) in accordance with the site plan.



**Filtration Tank Price:**

**\$ see price list**

**Pump Well Price:**

**\$ see price list**

Kym Mogridge  
PO Box 751  
BEGA NSW 2550

[www.wormsloos.com.au](http://www.wormsloos.com.au)

02 6494 1051  
0427 277 249  
[info@wormsloos.com.au](mailto:info@wormsloos.com.au)

# Greywater Re-Use System

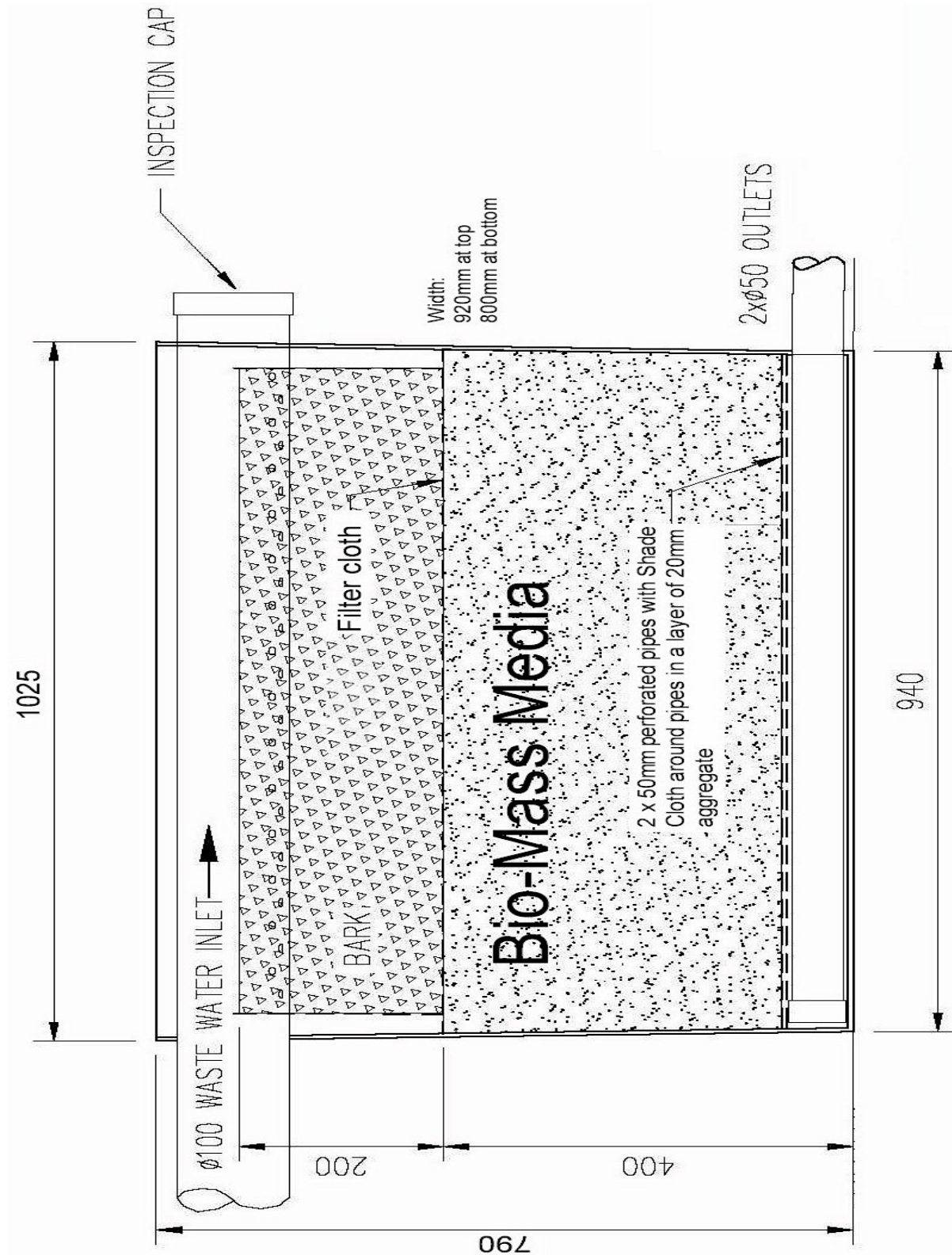
## SPECIFICATIONS

### **FILTRATION TANK:**

- Material: Medium density grade polyethylene
- Properties: U.V stabilised  
High stress resistance  
High fracture resistance
- Thickness: Average 5 mm
- Construction: Rotational moulding  
All surfaces are continuous with no welded or joined seams  
Ribbed structure for additional strength
- Dimensions: Height: 790 mm  
Length: 940mm btm – 1025mm top  
Width: 800mm btm – 920mm top

### **PUMP WELL / SECONDARY TREATMENT TANK:**

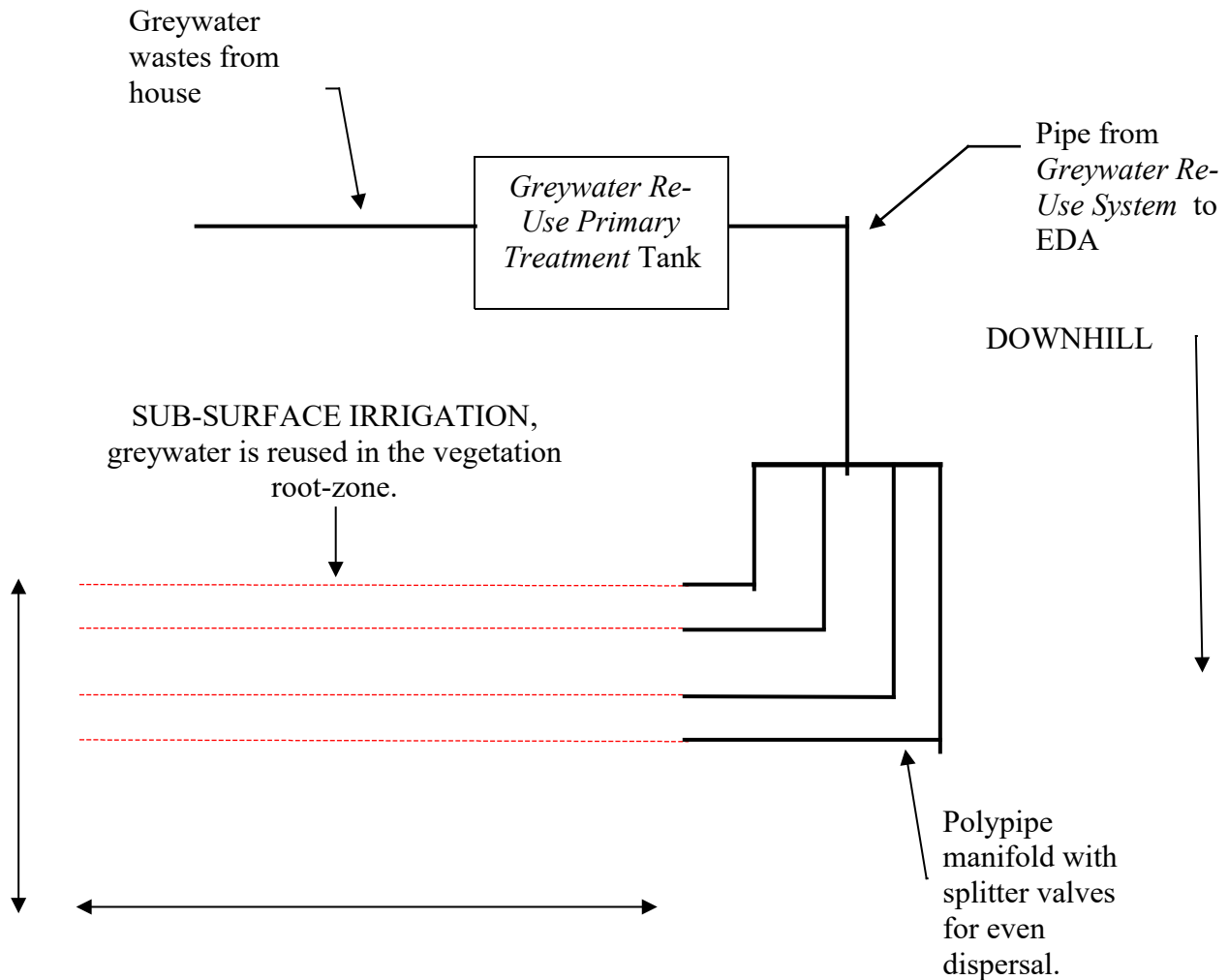
- Material: Medium density grade polyethylene
- Properties: U.V stabilised  
High stress resistance  
High fracture resistance
- Thickness: Average 5 mm
- Construction: Rotational moulding
- Pump: Davey D15 Vagma Automatic
- Dimensions: Height - 900 mm  
Diameter - 600mm



Greywater Re-Use Primary Treatment Tank

# NCG GREYWATER REUSE SYSTEM

Schematic diagram for **General Grey Water Reuse System** using a Greywater Re-Use Primary Treatment Tank, gravity dispersal through Sub-surface Irrigation into an Effluent Disposal Area (EDA). The EDA is designed to re-use greywater in the root-zone of vegetation. Dispersal pipe can be one continuous length or manifolded as shown in diagram. This system can process the volume of **Greywater** created by up to <# here> persons where the soil type is of a <to be determined> composition. Designed to AS1547-2000.  
(Diagram is not to scale)



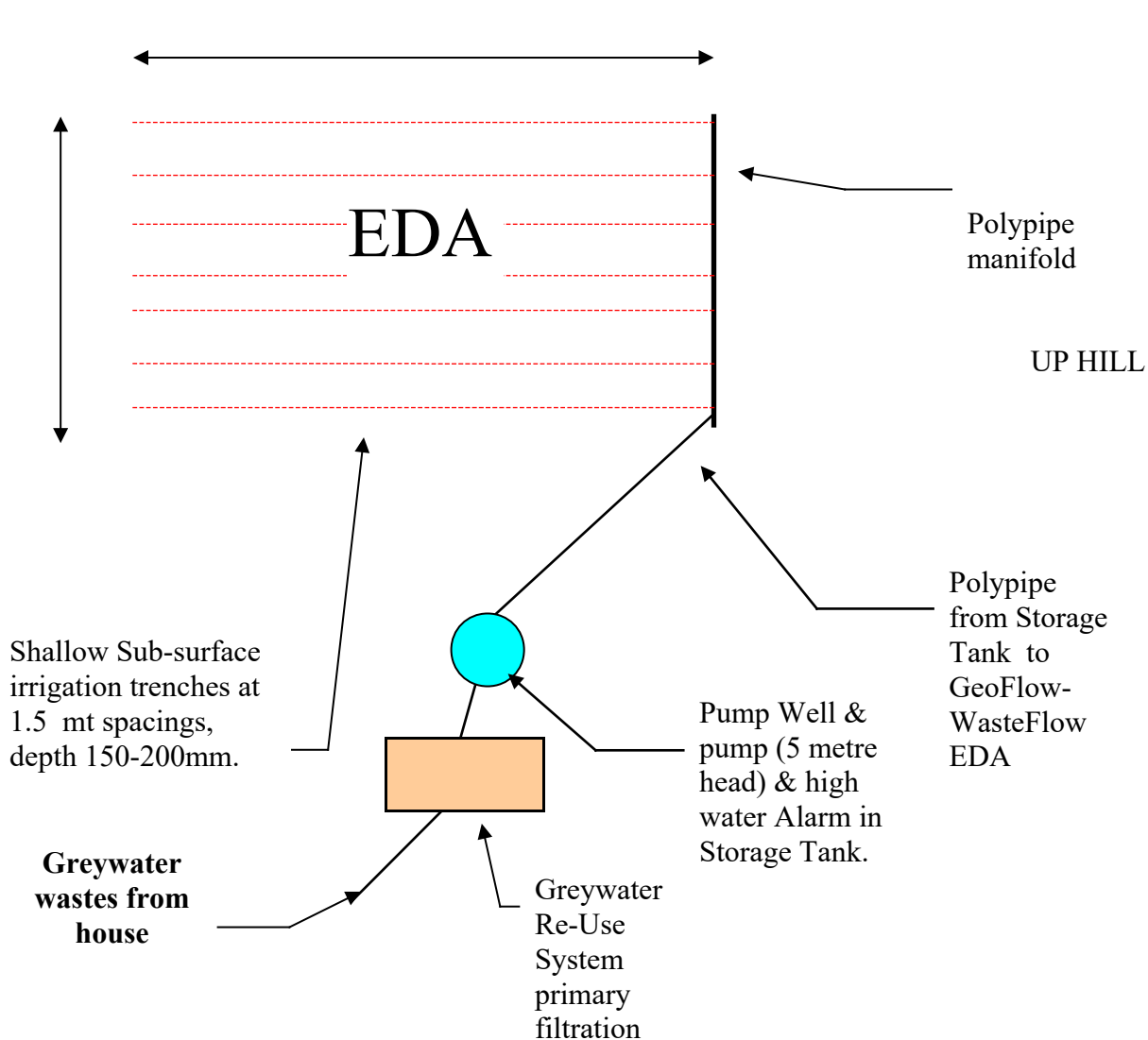
# NCP GREYWATER REUSE SYSTEM

Schematic diagram for **Grey Water Reuse System** via Sub-Surface Irrigation using a Greywater Re-Use Primary Treatment Tank, Pump Well, Pump & optional High Water Level Alarm, and GeoFlow-WasteFlow in the Effluent Disposal Area (EDA).

This system can process the volume of Greywater created by up to <# here> persons where the soil type is of a <to be determined> composition. Designed to AS1547-2000.

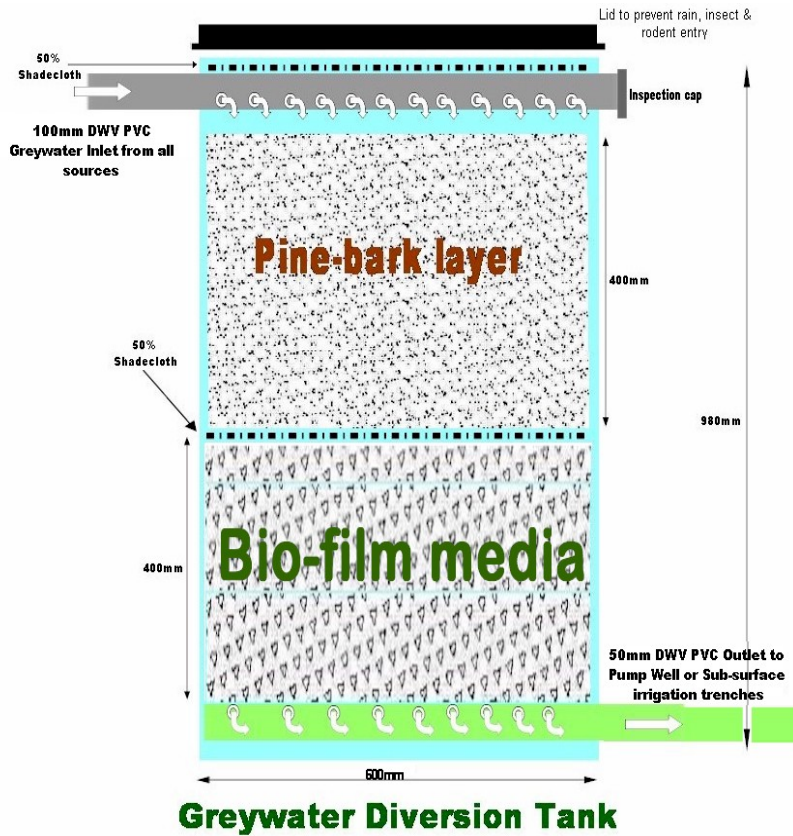
Shallow Sub-surface irrigation trenches can be 150-200 wide & deep and spaced 1.5mt apart with socked 100mm Ag-Drain & aggregate/geotextile/topsoil cover.

(Diagram is not to scale)

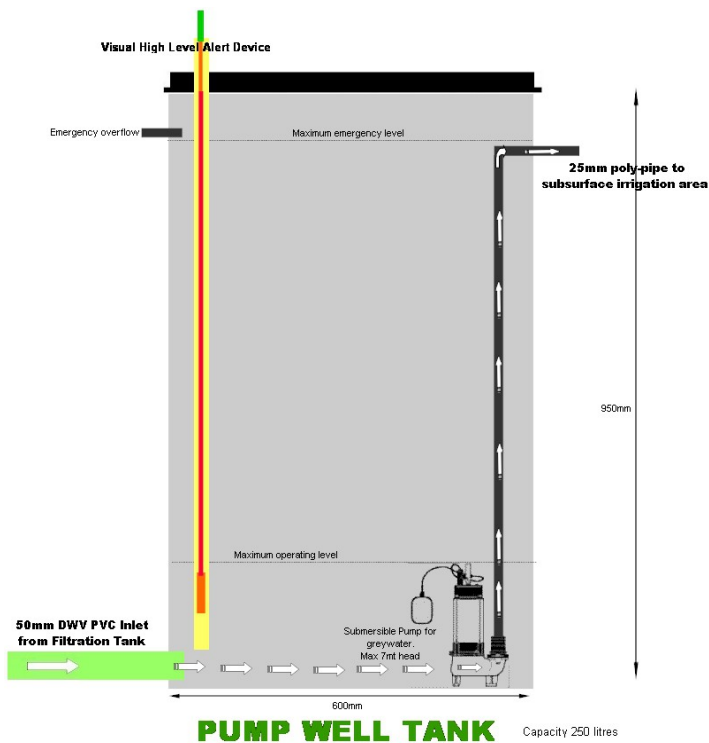




## GREYWATER DIVERTER



## GREYWATER PUMP



Kym Mogridge  
PO Box 751  
BEGA NSW 2550

[www.wormsloos.com.au](http://www.wormsloos.com.au)

02 6494 1051  
0427 277 249  
info@wormsloos.com.au

# ADOBE LOOS & WORMS

*Organic Waste & Wastewater Treatment Systems*

## GREYWATER ORDER FORM

(Effective Sept 2017, subject to change without notice)

| Product   | Price      | Qty. | +Freight                   | TOTAL |
|---|------------|------|----------------------------|-------|
| Greywater Diverter Tank   | \$295.00   |      | *                          |       |
| Gravity Greywater Reuse Tank (dispersal area is below the house level)  | \$1,520.00 |      | ##                         |       |
| Lid for Greywater Tank (price supplied with Tank)   | \$140.00   |      |                            |       |
| Pump Well Tank & Pump   | \$1,094.00 |      | *                          |       |
| Gravity Greywater Reuse Tank supplied pre-installed with BioMass & Bark   | \$1,850.00 |      | *                          |       |
|   |            |      | *                          |       |
| Greywater System Design – includes Soil testing, Design layout, System Specification, Water Balance, Cost Estimate & Components listing | \$290.00   |      | \$1/km<br>return<br>travel |       |
| Associated Equipment  |            |      |                            |       |
| WhirlyBird Wind Assisted Ventilator   | \$190.00   |      | \$25.00                    |       |
| Liquid Enzymes – 1 litres (makes 10 litres) Assists Composting in Pine Bark layer   | \$25.00    |      | \$10.00                    |       |
| Compost Worms – Reds & Tigers, box of 2000 worms for Pine Bark layer.   | \$40.00    |      | \$19.00                    |       |
|   |            |      |                            |       |
|   |            |      |                            |       |
|   |            |      |                            |       |
|   |            |      |                            |       |
|   |            |      |                            |       |
| ## Freight included   |            |      |                            |       |
| * Please phone for a freight quote to your location.  |            |      | TOTAL                      | \$    |

Contact Name (name on Card if paying by Credit Card): \_\_\_\_\_

Postal Address (Credit Card billing address if paying by CC): \_\_\_\_\_

\_\_\_\_\_ Town: \_\_\_\_\_ Postcode: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

Delivery Address: \_\_\_\_\_

\_\_\_\_\_ Town: \_\_\_\_\_ Postcode: \_\_\_\_\_

Payment Method: ☐ Direct Deposit ☐ Cheque ☐ Visa ☐ MasterCard

Direct Deposit: Bank- **St. George**; BSB- **112 87 9**; A/c Name: **Mr K R Mogridge**; A/c No.: **2802 4611**

Credit Card Number: \_\_\_\_\_ \* \_\_\_\_\_ \* \_\_\_\_\_ \* \_\_\_\_\_ Card Expiry Date \_\_\_\_ / \_\_\_\_ 3 Numbers on Card Back \_\_\_\_\_

Signature : \_\_\_\_\_

Thank You for your order

Kym Mogridge  
PO Box 751  
BEGA NSW 2550

[www.wormsloos.com.au](http://www.wormsloos.com.au)

02 6494 1051  
0427 277 249  
info@wormsloos.com.au