

## CLASS 2 SYSTEM DESIGN CALCULATIONS GREYWATER LEACHING PIT

To be submitted with application package

### DAILY SEWAGE FLOW CALCULATION

Based on hydraulic loads of all attached fixtures

FIXTURES			
Plumbing Fixture Description	Total # of Fixtures in Final Project Design	Unit	Total # of Fixture Units
Washbasin		x 1.5 =	
Bathtub or Shower		x 1.5 =	
Kitchen Sink		x 1.5 =	
Bar Sink		x 1.5 =	
Dishwasher		x 1.5 =	
Washing Machine		x 1.5 =	
Laundry Tub		x 1.5 =	
Other			
<b>Add units in last column</b>			↓
<b>Total Fixture Units =</b>			

The "Fixture Unit" is based on trap size and expected use (residential vs. commercial) from table 7.4.9.3 in the plumbing section of the code.

The total daily design flow leaching pit is:

- a. 200L per fixture unit where there is pressurized water (including gravity fed holding tank).
- b. 125L per fixture where there is **no** pressurized water (i.e. hand pumped/hauled).

<b>Pressurized water supply</b>	# Fixture Units _____ x 200 L =	Litres per day (Q)
<b>Non-pressurized water supply</b>	# Fixture Units _____ x 125 L =	Litres per day (Q)

**Note:** If your calculated daily design flow is more than 1000L, you cannot construct a greywater leaching pit. Consider installing either a) a Class 4 system, or b) multiple greywater pits.

**DAILY DESIGN FLOW (Q) = \_\_\_\_\_ Litres**

### PROPERTY SOIL PROFILE AND PERCOLATION RATE (T) DESCRIPTION

Please refer to the APH website pages titled **Property Soil Profile & Percolation Rate** to find how to determine the percolation rate of the soil on your site. Percolation rate (T) is measured as minutes per centimetre, and measures the rate at which water drains into the soil. Please indicate the (T) of your site below.

Soil Type	Coarse Gravel, no fines	Gravel, some small rocks	Gravel-sand mix, some fines	Sand, fairly uniform, some fines	Sandy-loam mix	Silty-loam, almost clay	Clay. Smears well, rolls into ribbons
<b>Percolation Rate (T)</b>	0 to 1	1 to 5	5 to 10	10 to 15	15 to 25	25 to 50	>50

## SOIL LOADING RATE AND CONTACT AREA CALCULATIONS

The Loading Rate (LR) is the volume of greywater the soil can accept in a day, and is expressed as Litres per m<sup>2</sup> per Day. To calculate the Loading Rate (LR) divide 400 by the Percolation Rate (T) of the soil. Use the highest value of (T) from the range matching your soil description above (e.g. if the range is 10 to 15, use 15).

<b>Loading Rate</b>	400 ÷ _____ (T) =	Litres per m <sup>2</sup> per Day (LR)
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Divide your Daily Design Sewage Flow (Q) by the above calculated Loading Rate (LR) for the minimum Contact Area.

<b>Contact Area</b>	(Q) _____ ÷ (LR) _____ =	m <sup>2</sup> (CA)
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For a square-shaped leaching pit, you can divide the Contact Area (CA) by 4 to figure out how big each of the side walls have to be.

<b>Area of Each Wall</b>	(CA) _____ ÷ 4 =	m <sup>2</sup>
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*To convert to square feet multiply m<sup>2</sup> by 10.76*

**TRANSFER THE ABOVE CALCULATIONS TO THE APPROPRIATE PLACES ON THE  
“DESIGN LAYOUT ON-SITE SEWAGE SYSTEMS AND BUILDING PERMITS” FORM**

**YOU MUST STILL SUBMIT THESE PAGES WITH YOUR APPLICATION**

