



TOWARDS BETTER ONSITE WASTEWATER MANAGEMENT IN VICTORIA - COMMUNITY EDUCATION SERIES

FACT SHEET 6: COMMON DISPOSAL METHODS (PRIMARY TREATMENT SYSTEMS)

This information will be of interest to you if you are selecting a new onsite domestic wastewater management system for your property, or live on a property that is not connected to a town sewerage system and have a conventional septic tank.

This fact sheet focuses only on the common disposal methods for septic tank systems and introduces trench systems, evaporation beds, wick systems, and mounds. It is recommended that this fact sheet be read in conjunction with Fact Sheet 1 Conventional Septic Tanks.



6.1 ABSORPTION TRENCHES AND EVAPO-TRANSPARATION / ABSORPTION TRENCHES

Evapo-transpiration/Absorption Trenches (or ETA trenches) are the most common onsite wastewater disposal method. Their design has varied over time but the primary function remains the same. Modern trench designs involve the use of slotted PVC piping or arch drains to disperse the effluent along the length of the trench. There is a minimum of 150mm of topsoil covering the trench and usually the rest of

the trench is full of aggregate (max of 40mm in size) (refer to Diagram 1). The length of these trenches is based on the amount of wastewater potentially generated in the house and the rate that the water can be assimilated by the soil, plants and evaporation.

DIAGRAM 1: COMMON ETA TRENCH DESIGNS

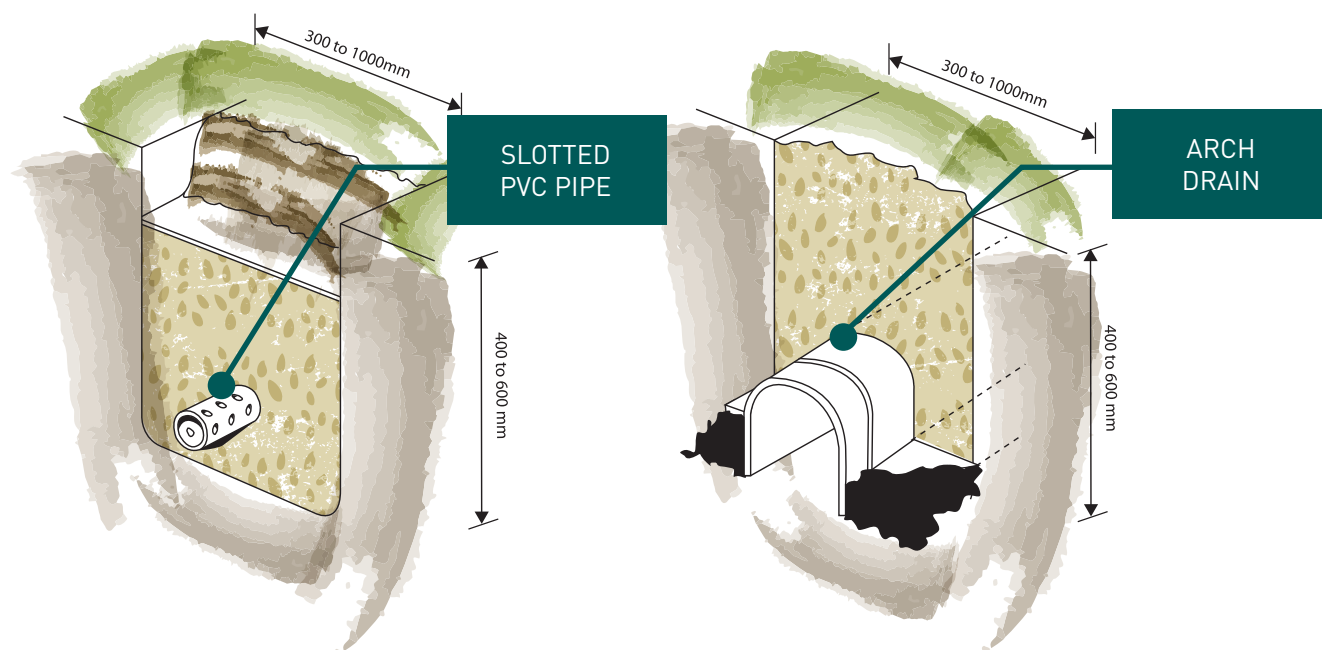
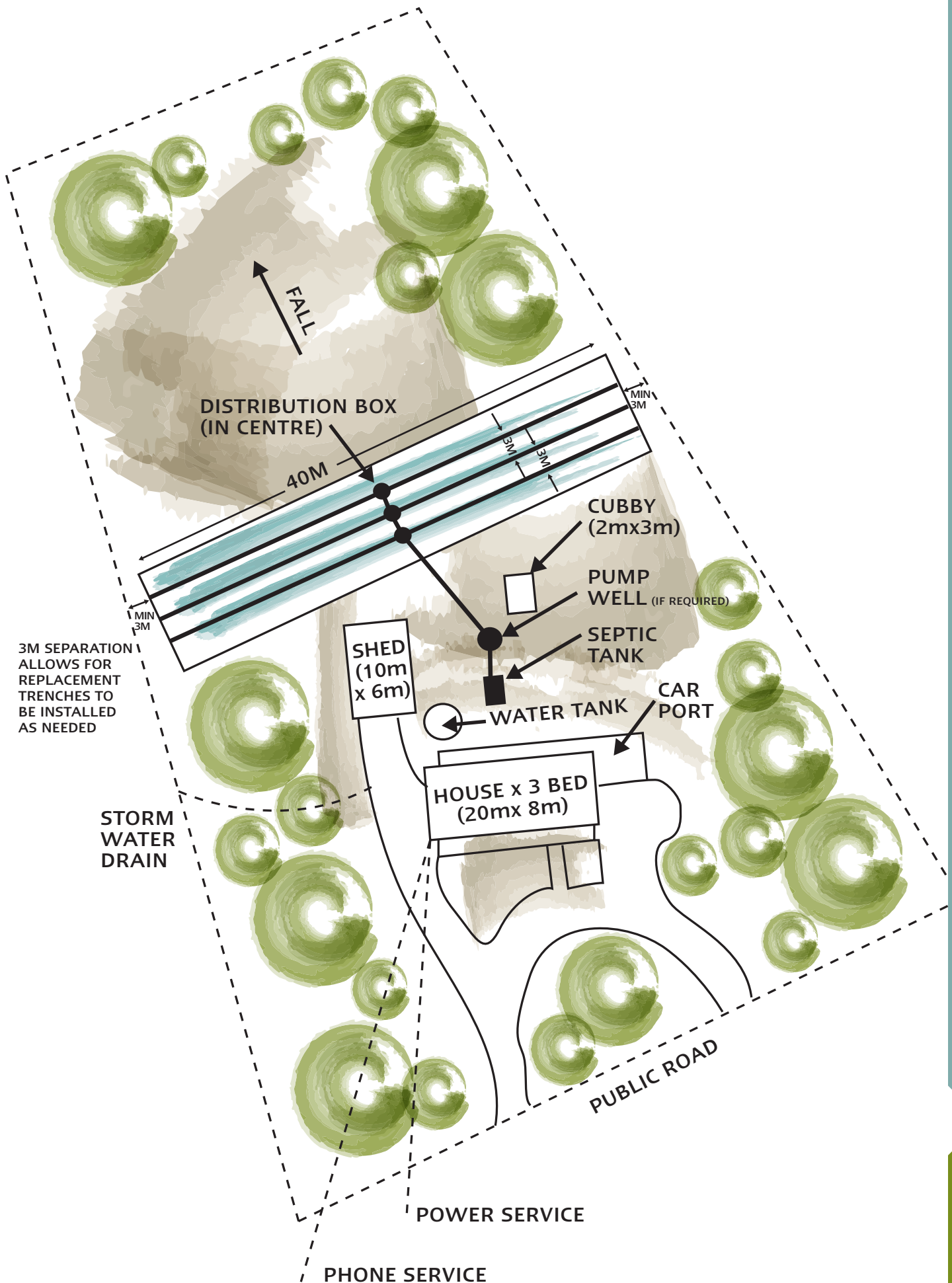


DIAGRAM 2: A TYPICAL ETA TRENCHES LAYOUT

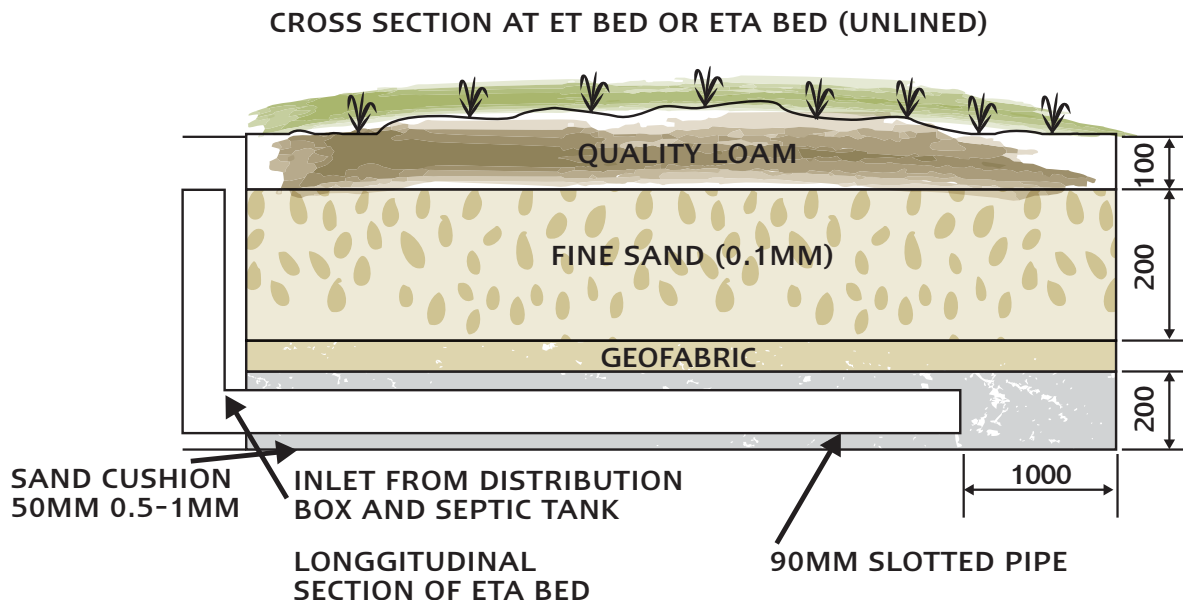
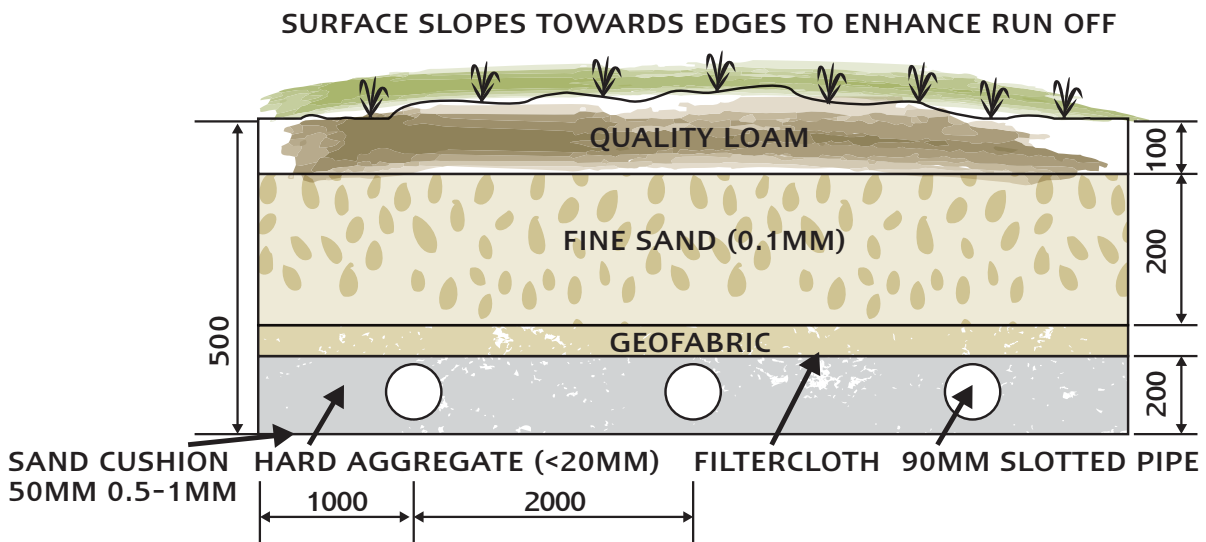


6.2 EVAPOTRANSPIRATION / ABSORPTION BEDS (OR ETA BEDS)*

ETA Beds are a useful effluent disposal option for properties with shallow soils or areas of high water tables. These beds are essentially designed to be large constructed sponges of sand and gravel, sealed off from the surrounding soil, providing an inbuilt water storage capacity. The surface is planted with shallow rooted perennial plants ie. grass, to maximise evaporation processes.

The effluent is fed or pumped into a network of pipes and then relies on the capillary action of water to spread through the bed. A critical design consideration for these types of beds is that it is located in a position to maximise solar exposure and wind movement.

DIAGRAM 3: VIEW OF AN ETA BED



6.3 WICK TRENCH AND BED SYSTEM

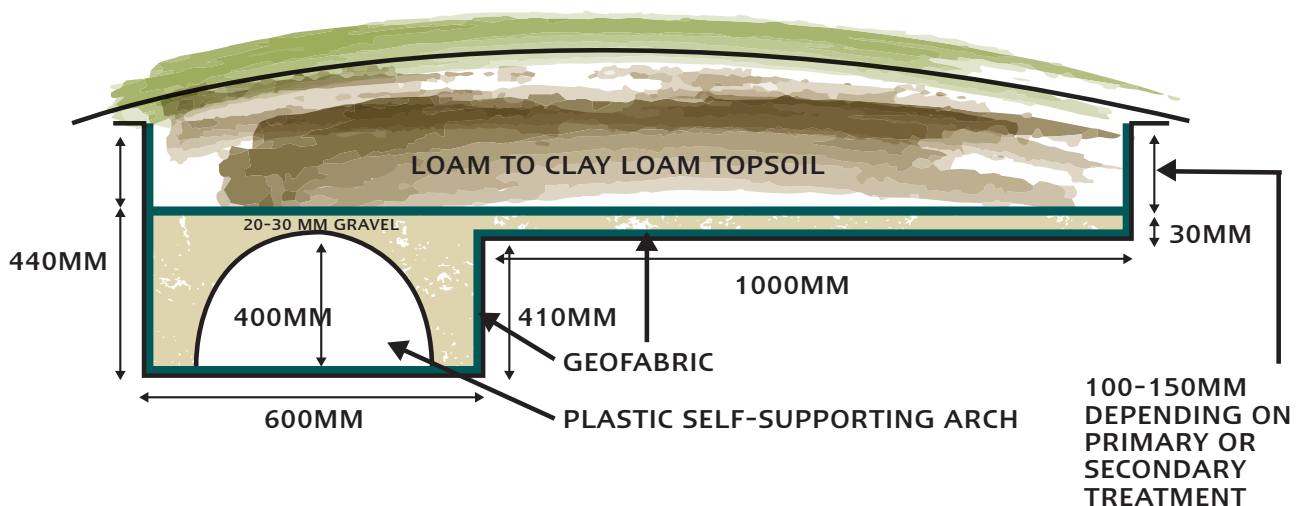
Wick trenches are a newer design for subsurface wastewater disposal that may be helpful for small blocks with limited space or where the soil has poor absorption (e.g. heavy clay soils).

This method of application is a combination of an absorption trench and evapotranspiration bed to best use the space between trenches within the disposal area.

The trench and bed is underlain by a layer of geotextile fabric that acts as a “wick” to continuously draw liquid upward from the trench to the bed, providing a greater surface area for evaporation to occur.

The function of the wick system is sensitive to slope, therefore sites where there is slope should be carefully designed.

DIAGRAM 4: WICK TRENCH AND BED SYSTEM

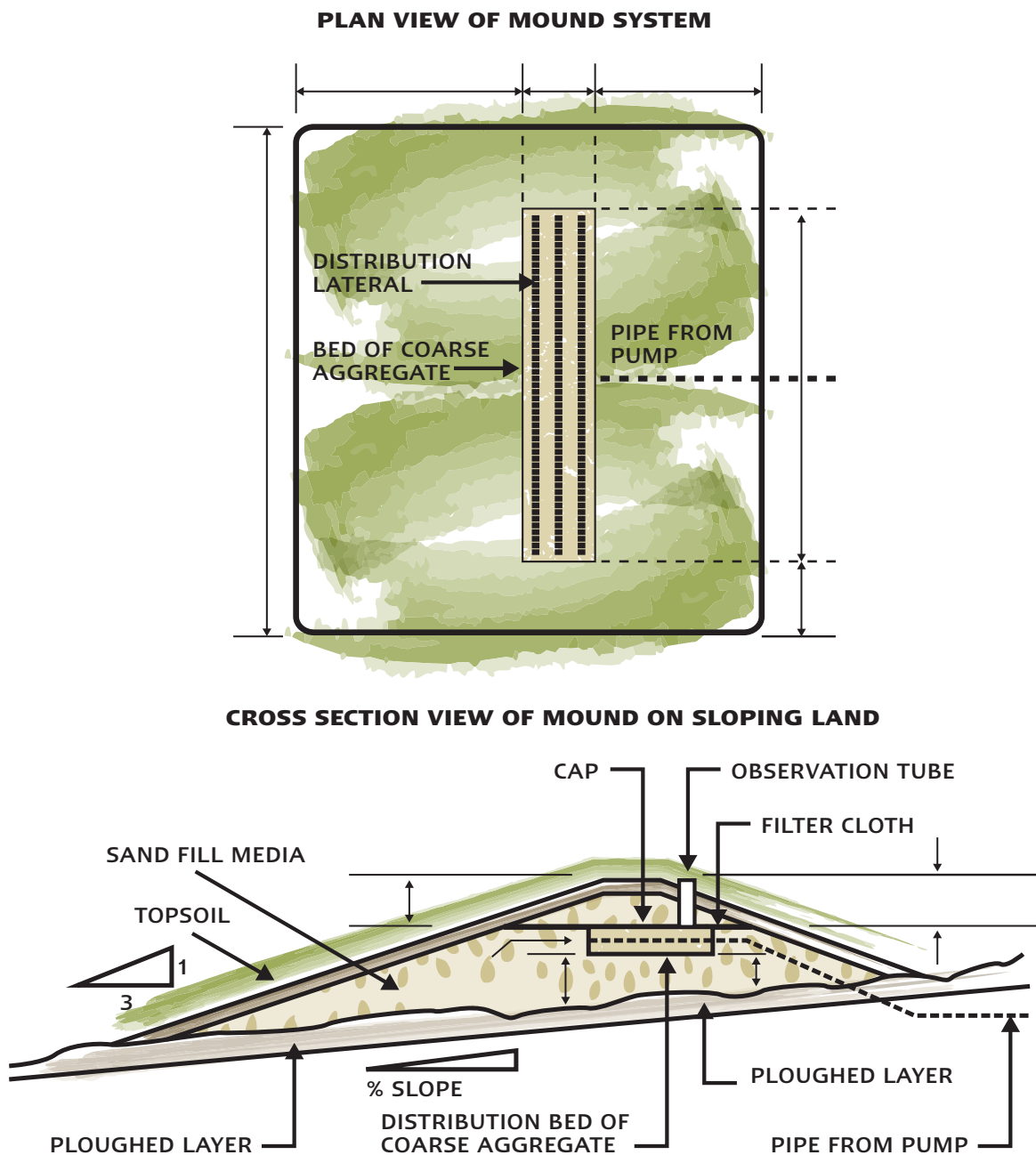


6.4 MOUND SYSTEMS

Mounds are normally used on flat allotments that have site or soil restrictions, including a high water table or lots of rock. The site is firstly roughed up or ploughed, then the mound is constructed directly onto the surface of the ground. The mound is mostly sand, with the

wastewater effluent pressure dosed into a bed of coarse aggregate so as to maximise dispersion into the sand for treatment. The effluent passes through the sand directly into the underlying soil. As the mounds are above the ground surface, wind exposure is increased, improving evaporation.

DIAGRAM 5: MOUNDS



Please Note: effluent needs to be pumped to the mound.

6.5 SOME HELPFUL TIPS FOR THE DISPOSAL OF PRIMARY TREATED EFFLUENT.

It is important to ensure that vehicles do not drive over these systems as they can compact and damage the field resulting in costly repairs. Cattle and other livestock can also cause similar damage.

It is important that paving, driveways, patios, fences, building extensions, sheds, children's playgrounds, portable above ground swimming pools and utility service trenching not be built over or encroach on the disposal area.

Remember to only use products in the household that are safe for your system (avoid disposable wipes, bleaches, prewash soakers and brighteners). Some products are considered safe to use and these include citrus based products, vinegar, environmentally friendly or biodegradable products and scented toilet blocks without antibacterial agents.

Your septic tank needs to be pumped/de-sludged every 3-5 years depending on use.

Carry out regular mowing and trimming of the vegetation within the disposal field to maximise exposure to the sun and nutrient up take.

Should the soil in the area have a tendency to crust then you can apply gypsum to help repair it.

Gypsum can also be applied to the bottom of new trench systems to reduce soil dispersion and maintain soil structure.

It would be advantageous to install a suitable filter at the outlet of your septic tank. Some more recent septic systems could already have one installed, if you are not sure, check with your plumber. This will reduce the amount of solids entering and potentially clogging the disposal area. These filters do require regular maintenance.

Ensure all distribution pits, inspection points or observation tubes associated with the individual disposal methods are accessible at the surface of the ground.

If you have ponding of rainwater in lower spots of the application area, you can fill these depressions with good quality topsoil or install a surface water diversion drain upslope of the field.

6.4 WHO TO CONTACT:



**Baw Baw
Shire Council**

For more information;

Visit: Council's Customer Service Offices at;

33 Young Street Drouin; or
1 Civic Place Warragul

Call: (03) 5624 2411

Email: Health@bawbawshire.vic.gov.au

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