Onsite Wastewater systems

Years ago, the only type of wastewater treatment available on sites not reticulated with the council sanitary drains involved a Primary 2 stage septic tank system. This involved a double chambered concrete tank which separated solids and discharged the liquids via an effluent dispersion field which relied on soakage and evaporation to dispose of the liquid waste. With these types of systems, the majority of the treatment of the wastewater actually occurred in the soil so was reliant on having soil with good soakage and the solids being separated out before the liquids were dispersed. A lot of these tanks would fail over a period of time after the dispersion fields clogged with the small amounts of solids which were not captured in the tank. This in turn would cause overflows and pollute nearby streams and paddocks which created health hazards to animals and people.

*Recent inspections of 2,000 properties on Waiheke Island indicated that around 11 per cent had minor problems and a further 3 per cent had major problems. Similarly, systems in Clevedon found that approximately 20 per cent of on-site systems were failing and a further 10 per cent were considered potentially likely to fail, (Ormiston Associates Ltd, 2007). The main reasons for failure were due to:

- Disposing of unsuitable items or chemicals (killing bacteria used to break down waste)
- Not pumping out the tank when required (lack of maintenance)
- Septic tank leaking directly into the ground through cracks in the tank walls
- Stormwater invading the system leading to overloading
- Pipes in the disposal field blocked and clogged
- Disposal field soil not being permeable enough causing overland flow
- Disposal field soil being too permeable causing ground water contamination
- Disposal field being too close to the groundwater table
- System not having enough capacity for the size of the dwelling

As more and more of these systems are replaced, we are seeing a greater selection of wastewater systems to choose from with different methods of treating the waste which has resulted in very “clean” discharge and minimal effects on the environment. These modern systems use a mixture of biological processes to help break down and digest waste before discharging the “clean” liquid waste to the fields.

A Building Consent is required for the installation of these systems, (and in some cases, a Resource Consent is also required). The cost of these consents varies greatly depending on the level of assessment needed to ensure the system will comply and perform as required by the Building Code. Building Consent applications are accompanied by a specific engineering design which provides evidence that the proposed system and specific site conditions will perform as intended. A lot of engineers use the technical publication TP58 to aid their design and Auckland Council will also use TP58 to assess the design for compliance. As an indication of Building Consent fees, a straight forward system designed using TP58, costing less than $20k and without requiring a Resource Consent should cost between $1600-1800. This would include one inspection and the final Code Compliance Certificate fee. Naturally, if there were design complications or inadequate documentation, this fee would rise so it pays to check that all TP58 design checks have been met.

**Ministry for the Environment: Proposed National Environmental Standard Document 2010*