Peter Boyd Enterprises

HOME OWNERS MANUAL
A guide to the maintenance and performance of your Rainwater Tank

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Concrete rainwater tanks that are placed into the ground can move. The movement can be up (often called "rotation", "lifting" or "popping" of the tank), down or even lateral. The primary cause of movement or floatation in a concrete rainwater tank can be related to, or traced back, to the soil.
Generally, there are two types of soil found in land zoned for residential construction – granular soil or clay soil. Granular soils are more prone, or susceptible to, erosion. Clay soils can have problems with saturation and swelling, or shrinking. A clay soil that becomes saturated after rain or a storm will react by absorbing the water, which makes the soil increase in volume. The swelling of a clay soil can create an upward force on a rainwater tank which, if not otherwise counteracted by, for example, a greater weight of water inside the rainwater tank then the rainwater tank will "pop" or float from the ground.

Below is a table extracted from Australian Standard (AS) 2870 (the residential slab and footing standard) outlining the different classes of soils: -

General Definitions of Site Classes
A - Most sand and rock sites with little or no ground movement from moisture changes
S - Slightly reactive clay sites with only slight ground movement from moisture changes
M - Moderately reactive clay or silt sites, which can experience moderate ground movement from moisture changes
H - Highly reactive clay sites, which can experience high ground movement from moisture changes
E - Extremely reactive clay sites, which can experience extreme ground movement from moisture changes
A to P - Filled sites
P - Sites which include soft soils, such as soft clay or silt or loose sands; landslip; mine subsidence; collapsing soils; soils subject to erosion; reactive sites subject to abnormal moisture conditions or sites which cannot be classified otherwise

It is important that you identify the soil type for your particular property to ascertain the measures that you will need to implement to ensure that the problems that could be experienced with the different types of soils can be prevented and thereby protecting against the movement in the concrete rainwater tank.

WARNING: Once the concrete rainwater tank has been supplied by PBE it becomes your responsibility, as the homeowner, to ensure you take the necessary steps to prevent your concrete rainwater tank from popping or floating from the ground.

PBE will not be held responsible for the flotation or movement in any concrete rainwater tank that is caused by movement in the soil or your failure to comply with the recommendations outlined herein

The measures PBE take to ensure the concrete rainwater tank will not float or "pop" from the ground

The concrete rainwater tanks supplied and manufactured by PBE are designed in such a way to minimalise the risk that the rainwater tank will "pop" or float from the ground.

At the time the concrete rainwater tank is supplied, PBE will partly fill the concrete rainwater tank with a sufficient amount of water to anchor the tank in the ground. Combined with a sufficient volume of water, the anchorage of the concrete rainwater tank is assisted by the actual weight and design of the concrete rainwater tank itself.

In addition, the base of the hole excavated for the placement of the rainwater tank will be bedded with sand.

The measures you must take to ensure the concrete rainwater tank will not float or "pop" from the ground

The measures you must take, once PBE has supplied the concrete rainwater tank, to ensure the rainwater tank does not float or "pop" from the ground are as follows: -

1. The concrete rainwater tank must NEVER be allowed to run dry;

2. At all times, the concrete rainwater tank must be at least one-third full of water;

3. You must maintain your gardens and landscaping to ensure surface run-off following rain does not flow towards your rainwater tank and be allowed to pond around the base of, or in the vicinity of, the rainwater tank;

4. You must ensure that any surface run-off from rain is diverted away from, or around, the rainwater tank which can be achieved by the careful placement or positioning of gardens or slightly changing the slope of the land around the rainwater tank.

HOMEOWNER'S ACKNOWLEDGMENT

Please sign and fill out the date below to confirm receipt of the "Rainwater Tank Maintenance & Performance: A Homeowner's Guide".

Dated the _____

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For and on behalf of PBE Owner's Signature and Name