

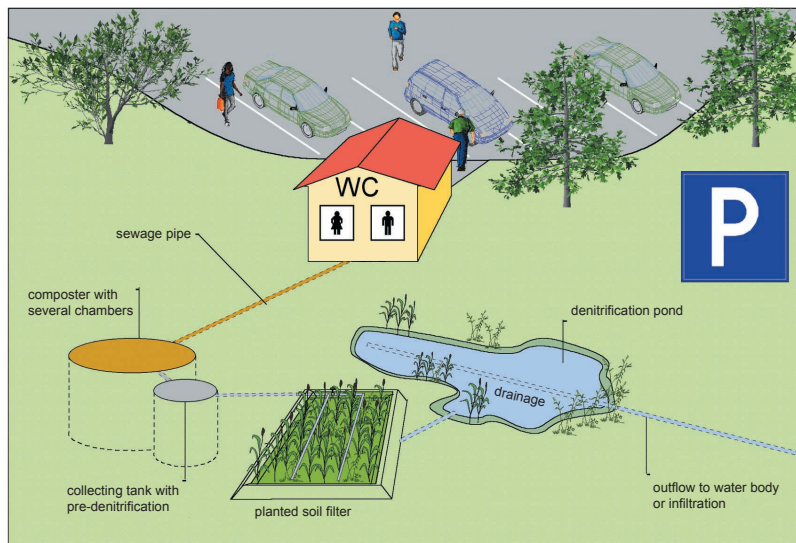
Make service water out of your toilet waste water ... and high quality fertilizer!

Cleaning concentrated toilet waste water at rest areas and local recreational areas

Concentrated toilet waste water, which is produced for example at toilet facilities at rest areas or recreational areas, is characterized by a high concentration of urine with up to 300 milligrams/liter of ammonia nitrogen. Treating this waste water requires a high level of oxygen in order to oxidize the ammonia to nitrate (nitrifica-

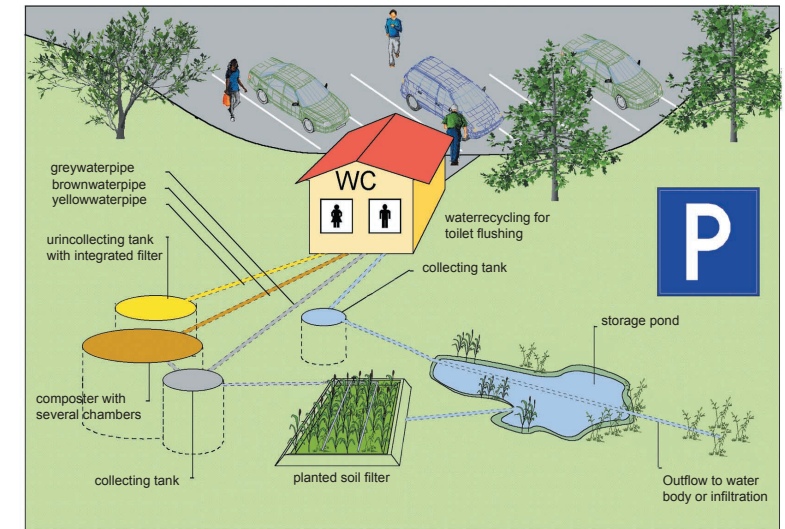
tion). The organic load is thereby also broken down. Organic substances are also needed for the second step of nitrogen removal which occurs through the microbial breakdown of the nitrate into atmospheric nitrogen, in the absence of oxygen. For decentralized facilities this used to be regarded as „difficult“ waste water to treat, and an external addition of carbon was needed.

For existing toilet facilities: the natural solution



The biological cleansing occurs in a planted soil filter with recirculation, according to the ÖKOTEC system. Here, organic substances are broken down and the nitrogen is nitrified. The continued process of denitrification occurs in a special step, in order to optimally utilize the organic substances that are easily broken down. If needed, an added denitrification step provides an almost total removal of the entire nitrogen content without having to add any extra substances. The composteur produces valuable compost.

For new facilities: natural solutions with source separation



The basic idea is that of recirculation management: the nutrients from the urine are never led into the waste water in the first place, but are instead led directly to the farmland in the form of high quality fertilizer. The treated waste water can be reused as ser-

vice water for flushing the toilets. The toilet facilities are practically identical to regular ones. The process provides the same comfort as traditional waste water disposal. This is the ideal solution from an ecological point of view.