

HANDY CRETE – SYDNEY AUSTRALIA – CONCRETE WASTEWATER

This system was designed for Handy Crete's concrete wastewater and handles up to 150LPM of concrete wastewater coming from their concrete recycling system.

This is how it works:

Step 1: They discharge their concrete into their concrete recycler



Step 2: The recycler removes all the sand and aggregate from the leftover concrete.



Step 3 .The grey water minus the sand and aggregate is then discharged into a sump pit where it is maintained in agitation.



Step 4: A sump pump then pumps the grey water up in to the central tube of the deep-cone thickener (Silo). The sump pump is controlled by floats which turn off and off the system automatically based on the amount of water accumulated in the sump pit. Whenever the sump pump turns on and pumps grey water up into the deep-cone thickener a flocculant pump injects several parts per million of flocculant into the stream to speed up the settling process. The clean water is then discharged into a clean water tank where it can be adjusted for PH and reused or discharged. The mud which settles in the cone of the thickener is then discharged by an automatic valve into a buffer tank which maintains the mud in Agitation.



Step 5: This mud is then pumped into the filterpress which uses the pressure created by the pump to force the water out through the filtercloths while leaving dry cakes of solids in the hollow chambers of the press. Once the cakes have reached the programmed dryness the pump shuts off and the filterpress automatically discharges the dry cakes into a pit below



Step 6: The dry cakes of concrete fines can then be mixed in with road base or disposed of. These cakes contain 15-25% moisture allowing for easy handling and disposal as a dry product.



Matec would like to thank Geoff Rands of Handy Crete and Recycling Systems Australia for their cooperation.