

EXPOL Manufacturing Plant Trial

EXPOL is the largest manufacturer and distributor of polystyrene products in New Zealand.

EXPOL are committed to protecting the natural environment and were concerned that waste material from manufacturing their polystyrene products was entering waterways via the stormdrains. Stormwater360 installed a LittaTrap™ as a trial unit in May 2016. The aim of the trial was to provide data on the effectiveness of the LittaTrap™ in capturing these small polystyrene particles and other gross pollutants.

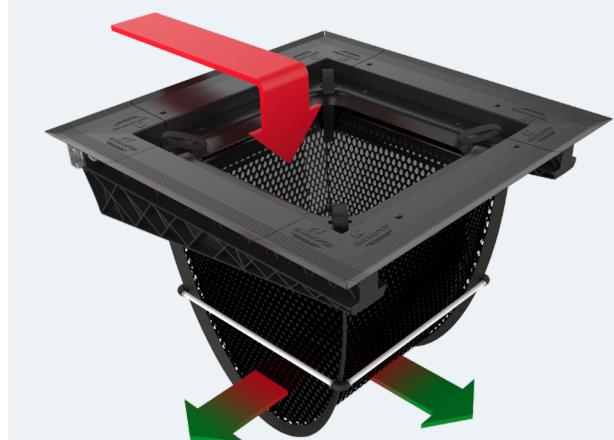
Polystyrene, is a petrochemical-based plastic that is harmful to the marine environment. Studies have shown that polystyrene begins to decompose within one year, releasing components that are detectable in the parts-per-million range. Those chemicals also decompose in the open water and inside marine life.

CATCHMENT

The catchment was estimated to be 8m X 27m to give a total of 216 m² of industrial hardstand.



Figure 1. Aerial view of EXPOL Onehunga site



The LittaTrap™ is a versatile catchpit insert system. It is readily installed in new or existing catchpits and may be configured to capture sediment or gross pollutants. For this trial the LittaTrap™ had a nurdle liner installed to capture the smaller particles. The LittaTrap™ is hand maintainable, allowing for low cost and frequent maintenance. By installing a LittaTrap™ there is a significant improvement of capturing both positive and neutrally buoyant materials which are typically washed down a storm drain, particularly in periods of high flow.

RESULTS OF LATEST CLEAN

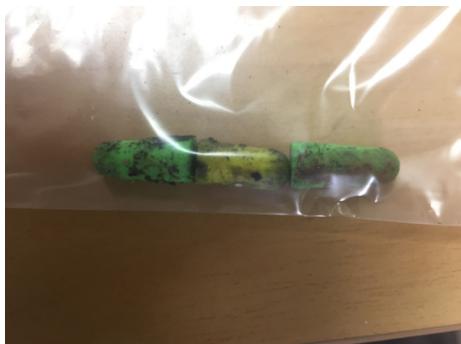
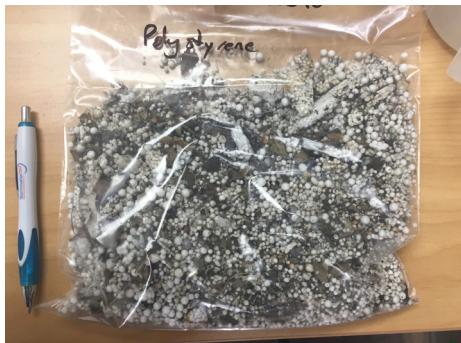
The EXPOL sump was fitted with a 450 x 450 LittaTrap™ with a nurdle liner to capture the smallest particles >1mm in size. Introducing the liner resulted in a higher level (greater than 97%) removal of gross pollutants.

The treatment unit was last maintained on 20th September, 2016. The gross pollutants collected in this clean represent 80 days of operation.

RESULTS

The LittaTrap™ captured:

- 21 cigarette butts
- 750 mL of polystyrene
- 2700 mL of organic material
- 1 aluminium can
- 3 ear buds
- Loose plastic



ANALYSIS

We estimate based on the volume of polystyrene and organic material collected* from inside and around the LittaTrap™, the LittaTrap™ had a gross pollutant removal efficiency of 97% by volume.

97%
removal efficiency
by volume

* This is based on material collected on the day of the clean.