



The client's objective was to maximise land yield across a large shopping centre and adjoining carpark in Auckland, while meeting regulatory requirements and achieving robust water quality outcomes. Given the site's commercial scale, space efficiency and high-performance treatment were essential.

To balance performance with spatial constraints, an integrated Green Infrastructure solution was selected. This approach delivered superior pollutant removal while aligning with modern, sustainable design standards.

## THE SOLUTION:

The site was divided into two primary catchments, each with a tailored system to address both gross pollutant removal and fine filtration. A treatment train approach was used. The products used are the LittaTrap™, Cascade Separator™ and Filterra® Bioscape®. The LittaTrap™ removes gross pollutants, the Cascade Separator™ removes gross pollutants, sediments, and floatables upstream, while the Filterra® Bioscape® provides high-performance bioretention, consistently removing TSS, nutrients, metals, and hydrocarbons.

## TREATMENT TRAIN:

### Catchment 1 – 32,371 m<sup>2</sup>

Cascade Separator™ CS6 (Pre-Treatment / Gross Pollutant Trap)

125m<sup>2</sup> Filterra® Bioscape® (Bioretention for fine pollutant removal)

### Catchment 2 – 39,243 m<sup>2</sup>

Cascade Separator™ CS6 (Pre-Treatment / Gross Pollutant Trap)

150m<sup>2</sup> Filterra® Bioscape®

## LittaTrap™ Deployment:

As part of the site-wide strategy, 108 LittaTrap™ units were installed throughout the carpark area. These devices provide:

**Primary role:** Acting as Gross Pollutant Traps at source, intercepting plastics, trash, and debris before they enter the stormwater network.

**Secondary role:** Enabling hotspot monitoring and analysis to assess pollutant loads, identify contamination trends, and support targeted future maintenance or upgrades.



## MAINTENANCE REGIMEN:

**Filterra® Bioscape®** is simple and low-cost to maintain, with a 6-monthly replacement for the mulch layer. This can be done by hand maintenance or by a vactor truck to suck up the mulch, and then a mulch blower to reapply the mulch.

**Cascade Separator™** follows an inspect-to-maintain service, ensuring the system remains fully functional with minimal maintenance required between service intervals.

**LittaTrap™** can be maintained by hand or by a vactor truck. Hand maintenance is simple; Lift the LittaTrap™, Tip out the LittaTrap™ into a rubbish bin and then simply replace the LittaTrap™ back into the drain.

## KEY OUTCOMES:

- Maximised land use without compromising stormwater treatment performance.
- Achieved high pollutant removal within a compact footprint.
- Delivered a modular, scalable system adaptable for future expansion.
- Prevented trash pollution at source, improving downstream water quality.

## CONCLUSION:

This project showcases how thoughtful design and smart product integration can deliver high-yield, high-performance stormwater outcomes in challenging commercial environments. By combining LittaTrap™, Cascade Separator™, and Filterra® Bioscape® technology, the site now benefits from low-maintenance, long-term sustainable stormwater infrastructure that meets today's needs while supporting future growth.

