

Stormwater Treatment for Eastern Busway

Eastern Busway, Auckland



PROJECT OVERVIEW:

The Eastern Busway is another step closer to completion, with construction now underway on the final 500-metre section. When it opens in 2027, the busway will strengthen connections across Auckland, enabling customers to travel from Botany to downtown Auckland in approximately 40 minutes by bus and train.

By 2028, the busway is expected to carry 18,000 passengers each day — more than four times the 3,700 daily bus passengers recorded before 2019. That figure is forecast to grow further still, to 24,000 passengers per day by 2048, making the Eastern Busway one of Auckland's most significant pieces of rapid transit infrastructure.

THE CHALLENGE:

As a major piece of high-traffic transport infrastructure, the Eastern Busway presented a demanding set of stormwater design conditions. The project's complex geology, challenging groundwater conditions, limited available space, and exposure to tidal influences all required a flexible approach to stormwater treatment — no single device type would suit every catchment along the corridor.

Beyond the technical site conditions, the design also had to account for the practical realities of a live, high-traffic transport corridor: safe and practical maintenance access, safety in design principles, whole-of-life costs, and the contaminant mass loading expected from a busy transit route over its operational life.

THE SOLUTION:

Stormwater360's broad range of treatment technologies allowed the design team to select the most appropriate solution for each individual catchment along the route, rather than forcing a single device type across highly variable site conditions.

In total, Stormwater360 supported the project with:

Product	Quantity	Role in Treatment Train
StormFilter™	10 vaults (254 cartridges total)	Final polishing filtration - the world's most widely utilised media filtration technology.
Vortechs™	3 x vaults configuration	Shallow-profile hydrodynamic separation for constrained installation depths.
Cascade Separator™	14 x manhole configuration	Compact-footprint, high-performance hydrodynamic separator

Vortechs™ units were selected specifically where complex site geology required shallow installation depths — the system's low profile made it possible to install effective hydrodynamic separation without the excavation depth a conventional device would demand. Where ground conditions allowed for it, Cascade Separator™ units were used instead, offering a compact footprint paired with high treatment performance.



StormFilter™ systems were specified for final polishing across the network. As the world's most widely used media filtration technology, StormFilter™ offered the design team the flexibility needed to meet the project's varied requirements across different catchments and site conditions.

Given the corridor's exposure to tidal influence, marine-grade concrete housings and inserts were specified in parts of the network exposed to saltwater ingress — helping ensure long-term durability in a coastal environment over the busway's full operational life.

TARGET POLLUTANTS:

Designed to treat a range of contaminants typical of high-traffic transport infrastructure:
Gross pollutants, total Suspended Solids (TSS), heavy metals, nutrients, fine sediment, dissolved contaminants, oil and hydrocarbons and gross pollutants.

OUTCOME:

By drawing on a full range of treatment technologies rather than a one-size-fits-all approach, the Eastern Busway's stormwater network was able to meet the project's technical, spatial and long-term durability requirements across a highly variable corridor — supporting one of Auckland's most significant rapid transit projects as it moves toward completion in 2027.

