



with assistance from
New Zealand Water and Wastes Association
presents

**Managing Stormwater
and Road Run-off
Tools, Techniques and Devices**



Stormwater360



Innovative Stormwater Technologies for Road Runoff

Stormwater Treatment Technologies

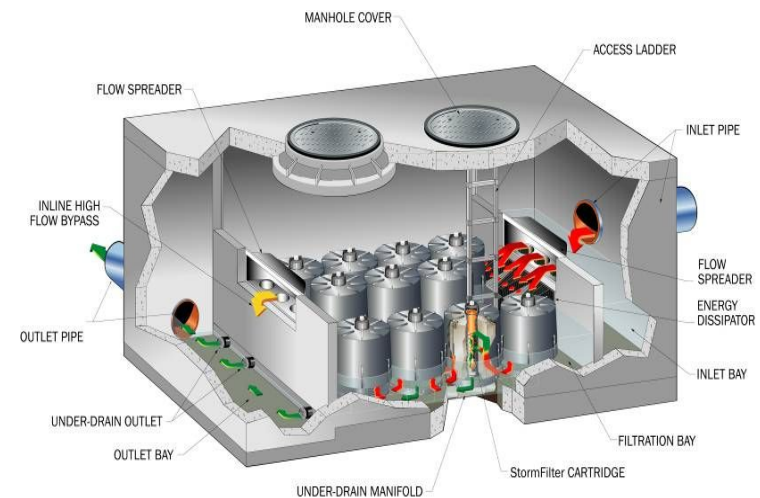
- Traditional

- Ponds
- Wetlands
- Swales
- Sand filters



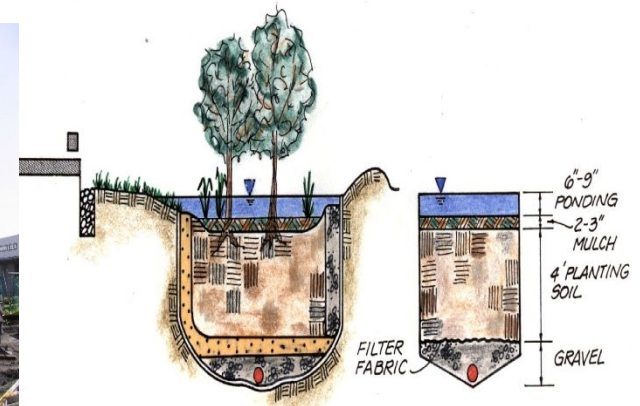
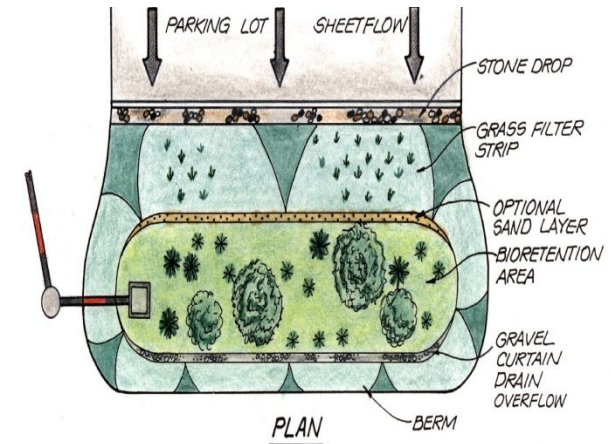
- Innovative

- Screening Devices
- Hydrodynamic Devices
- Filtration Devices

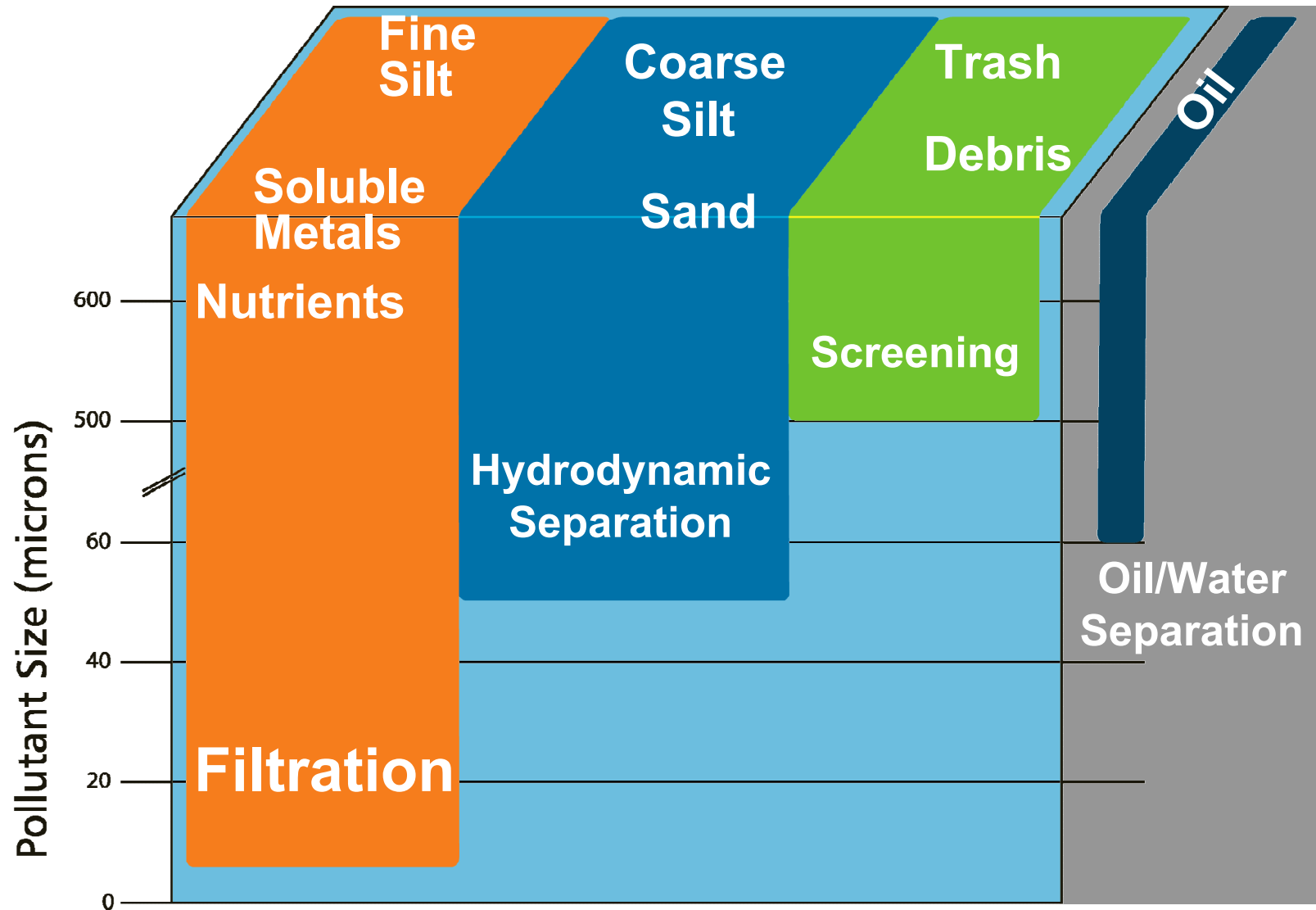


Traditional or Innovative

- Flow based as Opposed to Volume based
- Manufactured Solution as Opposed to Designed and Constructed
- Aboveground or Underground



Pollutant Characterization

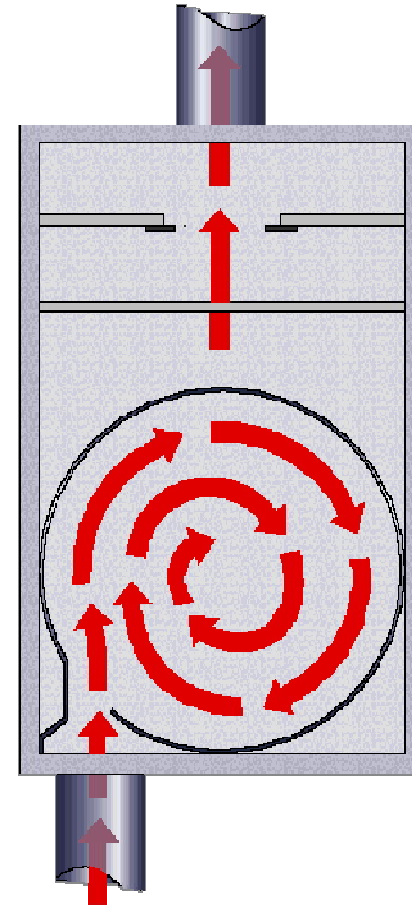
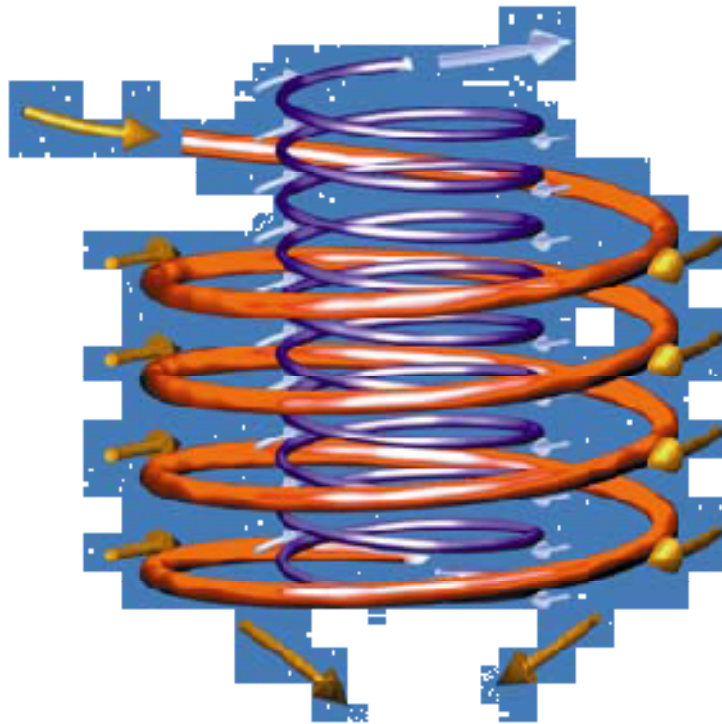


Hydrodynamic Separation Devices

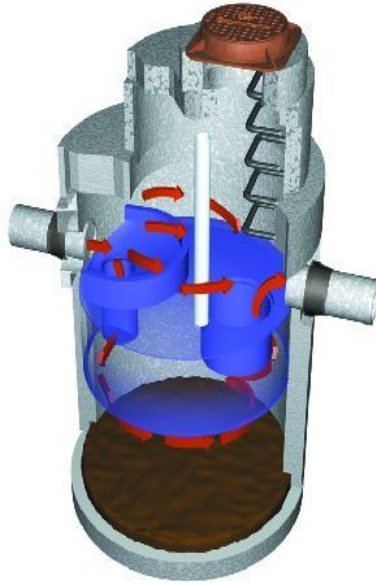
Why Hydrodynamic Separation?

- Removes sediment, floatables, free oil and grease
- Widely accepted for effective solids removal
- Small footprint for treated flow rate
- Minimal head loss

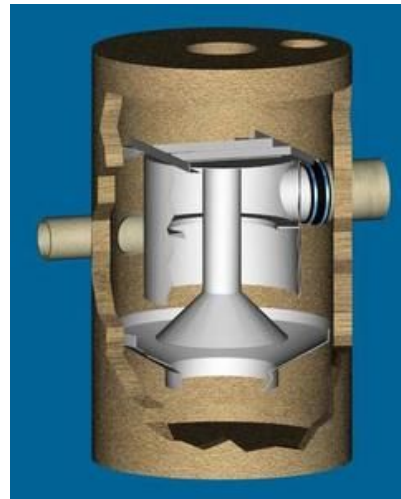
Hydrodynamic Separation



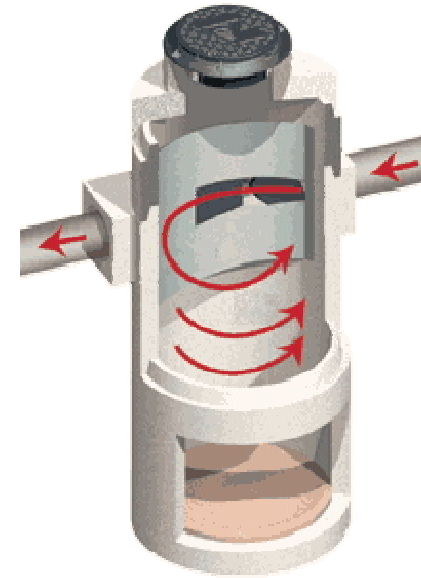
Hydrodynamic Separation Devices



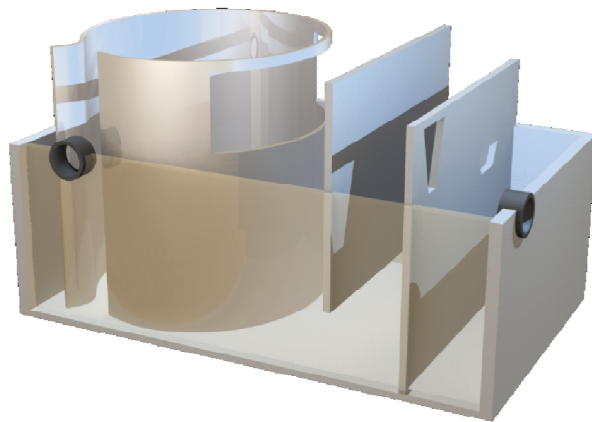
Humeceptor



Downstream Defender



VortSentry®



Vortechs® System

Hydrodynamic Separation Fundamentals

- Increased efficiency by increasing length of flow path
- Increased efficiency by lowering flow velocities
- Minimises turbulence and velocity
- Prevents flow surges and re-suspension
- Retains floating pollutants
- Easy maintenance

Where to use Hydrodynamic Separation

- Pre-treatment
- Retrofit
- Solids removal
- Limited space
- Budget restrictions



Stormwater360



Thank you

Questions?

- Mike Hannah, Stormwater 360
- Chris Thorpe, Humes
- Peter Carroll, Hynds
- Keith Caldwell / Sue-Ellen Fenelon, Beca