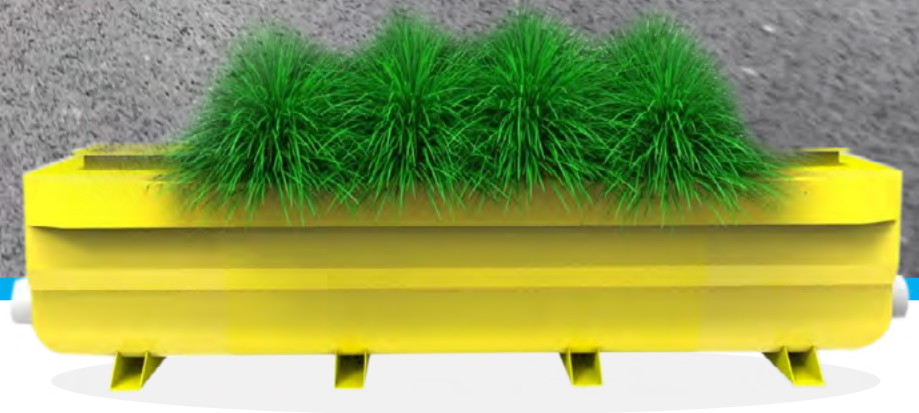




**BIO
PROTECTOR**



SPECIALIST

BIOPROTECTOR

STORMWATER TREATMENT

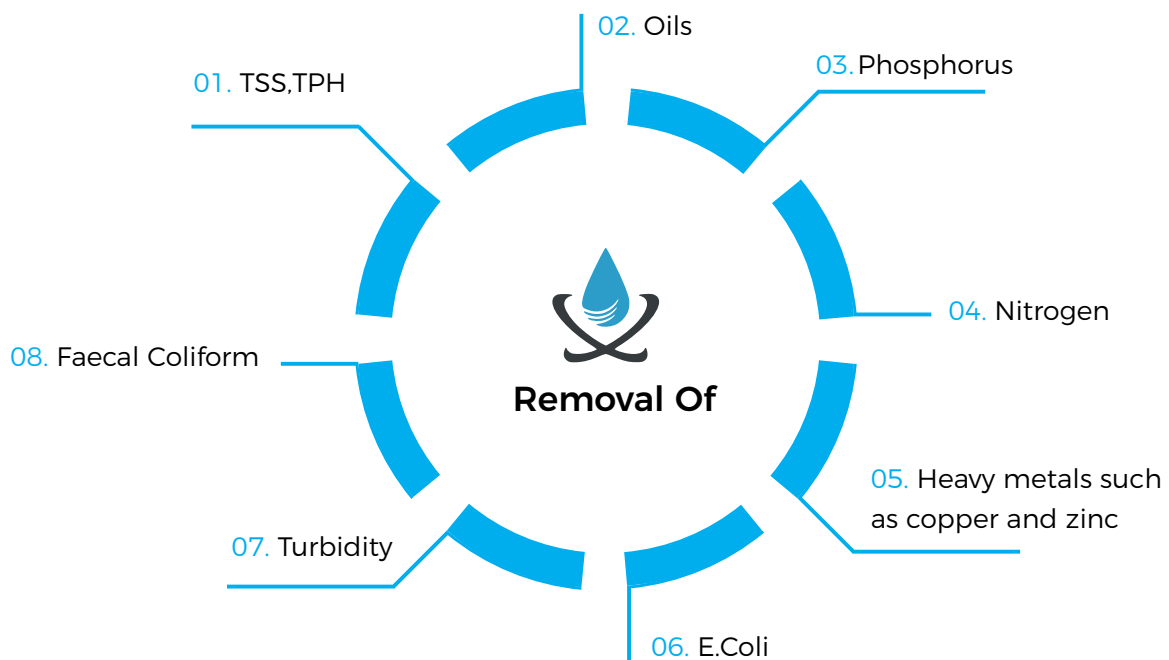
www.protector.com.au

BIO PROTECTOR

The Bio Protector is a combination of two effective treatment processes, being physical Filtration process and a biological filtration process. This system is engineered to combine these two processes to form a complete and effective process to remove a large range of contaminants. The entire system uses the hydraulic flow of the stormwater to push the water through our dual filtration process. The system is easily applied into a large range of applications, including streetscapes, parking areas, urban environments, highways and industrial settings in a compact form. This system has a small footprint on its installation environment allowing it to be easily installed into any situation or in combination with a range of other Protector products, even suitable for installation downstream of detention systems, making it the only biofilter capable of this.

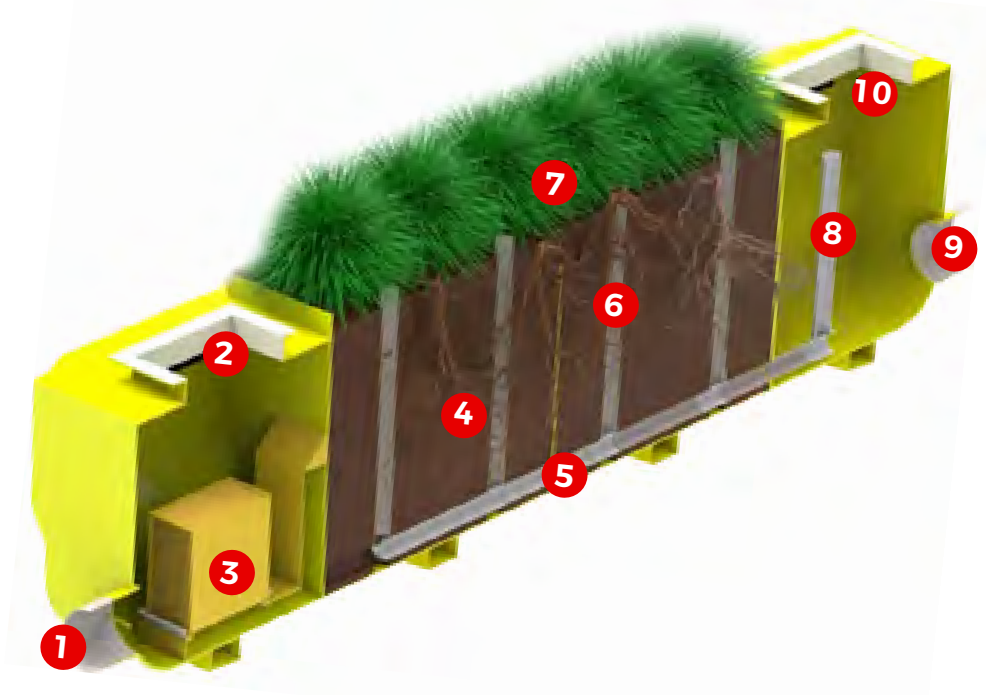


This system is modelled by the Protector team to suit the demands of your site. With our impressive design we can ensure that the Bioprotector will be perfect for your needs.



PRODUCT STRUCTURE

1. Inlet into Pre-treatment chamber which acts as a capture chamber prior to the first stage of treatment, also acts as a sediment capture area and settling chamber for trash, litter and gross pollutants.



2. Manway access for maintenance and adjustment of the Coalescer unit. This can also form the location of the Grate for the grate type inlet configuration. High flow Bypass is also present in this area, located at the highest point on each side wall of the pre-treatment chamber. This water bypasses the bioretention system in situations of high flow.

3. Coalesce Filter and Flow director- Provides treatment of the stormwater by physically and chemical removing heavy metals, nutrients, TSS and bacteria.

4. Bioretention Media combines the filtration methods of bioretention and filtration to remove majority of physical, chemical and biological contaminants.

5. Water Flow Pipe which directs clean

water from the bioretention and filtration processes into the discharge chamber.

6. Water bioretention inlet pipe with miniscule perforations for water absorption to be directed into the flow pipe (5) to then be directed out. This water has been filtered by all the processes available and will be able to be returned into the water systems, clean and unpolluted.

7. Plant system for both aesthetic and bioretention purposes.

8. Bioretention outflow Chamber.

9. Outlet discharge, can be combined with valve system for flow control

10. Outlet Chamber Manway Access for maintenance.

DESIGN CONSIDERATIONS

Important considerations must be taken when deciding on which variation of the BioProtector product is suitable for your needs. With the assistance of our team of experienced staff we can offer endless assistance and advice in this matter.

The most important aspects we consider to help solve your needs are:

-  Physical Locale and rainfall conditions
-  Catchment Size
-  Contaminant types
-  Flow Rate
-  Risk Analysis

FEATURES

VALUE



With the most competitive prices with the highest quality, we offer the most cost-effective system for a long lasting and effective product.

APPLICATION



Can be used in a wide range of configurations being commercial, residential, urban or industrial.

VERSATILE FOR ALL AREAS



Our Product is ideal for both retrofitting into already existing urban settings or easily installed into new construction sites.

FILTRATION TECHNIQUES



The dual process of the Bioretention and the filtration media ensure FRP designs will strive to keep our streams, waterways and our environment clean.

HIGH FLOW BYPASS



Allows for continual flow of water through the system in high flow conditions.

AESTHETICALLY SUITABLE



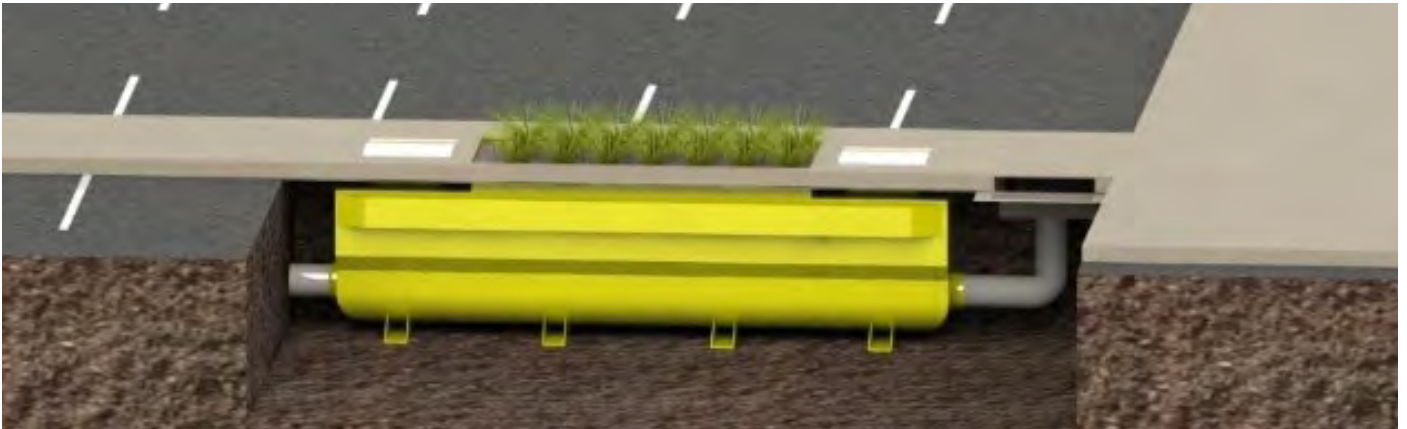
Our design can easily improve and camouflage into any urban setting, whilst still fulfilling its requirements as a filtration system. The organic look that is provided by the bio protector allows an aesthetical ease into any environment.

EASE OF INSTALLATION AND MAINTENANCE



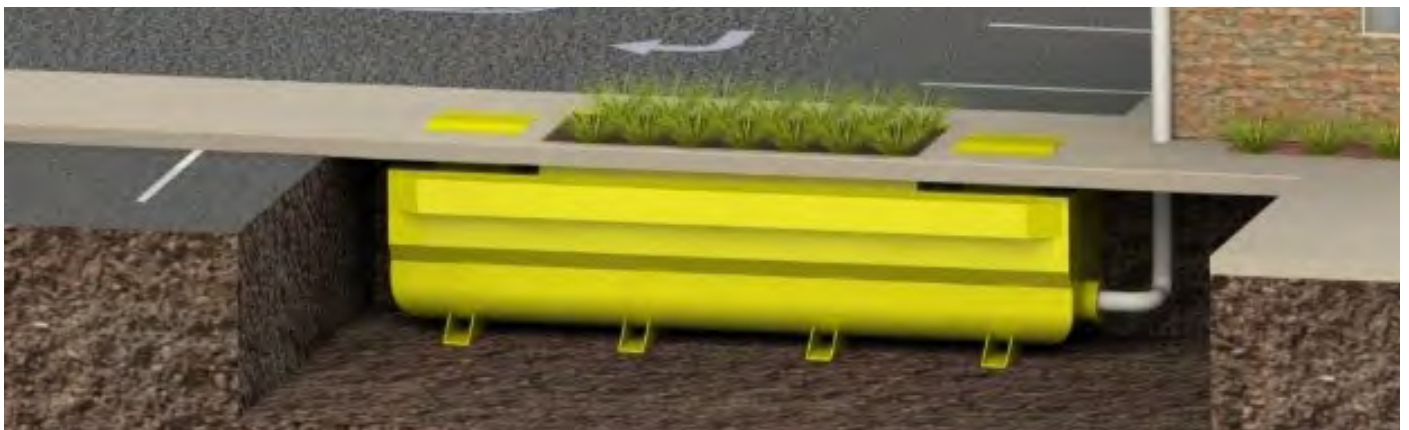
The dual process of the Bioretention and the filtration media ensure FRP designs will strive to keep our streams, waterways and our environment clean.

INSTALLATION CONFIGURATIONS



Curb

This system has its inlet coming directly from a drainpipe into the inlet location situated in the front of the BioProtector. Due to the BioProtectors ability to remove heavy metals such as mercury, lead and copper the use of this treatment system combined with a rooftop drainage system cause a simple solution to the cleaning and treatment of rooftop runoff. This system can be simply installed adjacent to a building near a pre-existing drainpipe system and retrofitted simply into position. Can be applied to any residential or commercial building with a great aesthetically pleasing look.



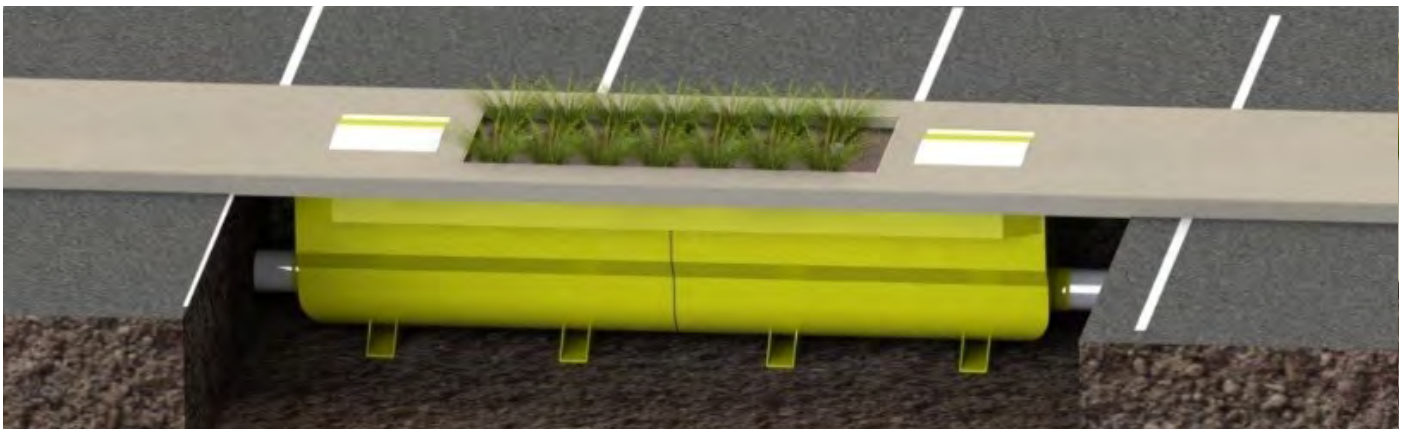
Rooftop Down Pipe

This system has its inlet coming directly from a drainpipe into the inlet location situated in the front of the BioProtector. Due to the BioProtectors ability to remove heavy metals such as mercury, lead and copper the use of this treatment system combined with a rooftop drainage system cause a simple solution to the cleaning and treatment of rooftop runoff. This system can be simply installed adjacent to a building near a pre-existing drainpipe system and retrofitted simply into position. Can be applied to any residential or commercial building with a great aesthetically pleasing look.



Grate Inlet

This system one in which the runoff simple is taken from any surface and runs directly into the ground level grate and into the system. This design is hence at ground level and can be implemented in pathways, parking islands or garden landscapes to provide a clean water treatment system. This grated inlet system is best suited to sump conditions and can also be combined with inlet pipe flow systems from upstream catchment basins.



Inlet Flow

This system one in which the runoff simple is taken from any surface and runs directly into the ground level grate and into the system. This design is hence at ground level and can be implemented in pathways, parking islands or garden landscapes to provide a clean water treatment system. This grated inlet system is best suited to sump conditions and can also be combined with inlet pipe flow systems from upstream catchment basins.

OTHER PRODUCTS

EcoProtector



Hydrodynamic, fill capture, high capacity gross pollutant Trap

StormProtector



Dual chamber, fine particle, sedimentation and organic pollutant removal treatment with large retention and Bypass.

HYDRAPROTECTOR

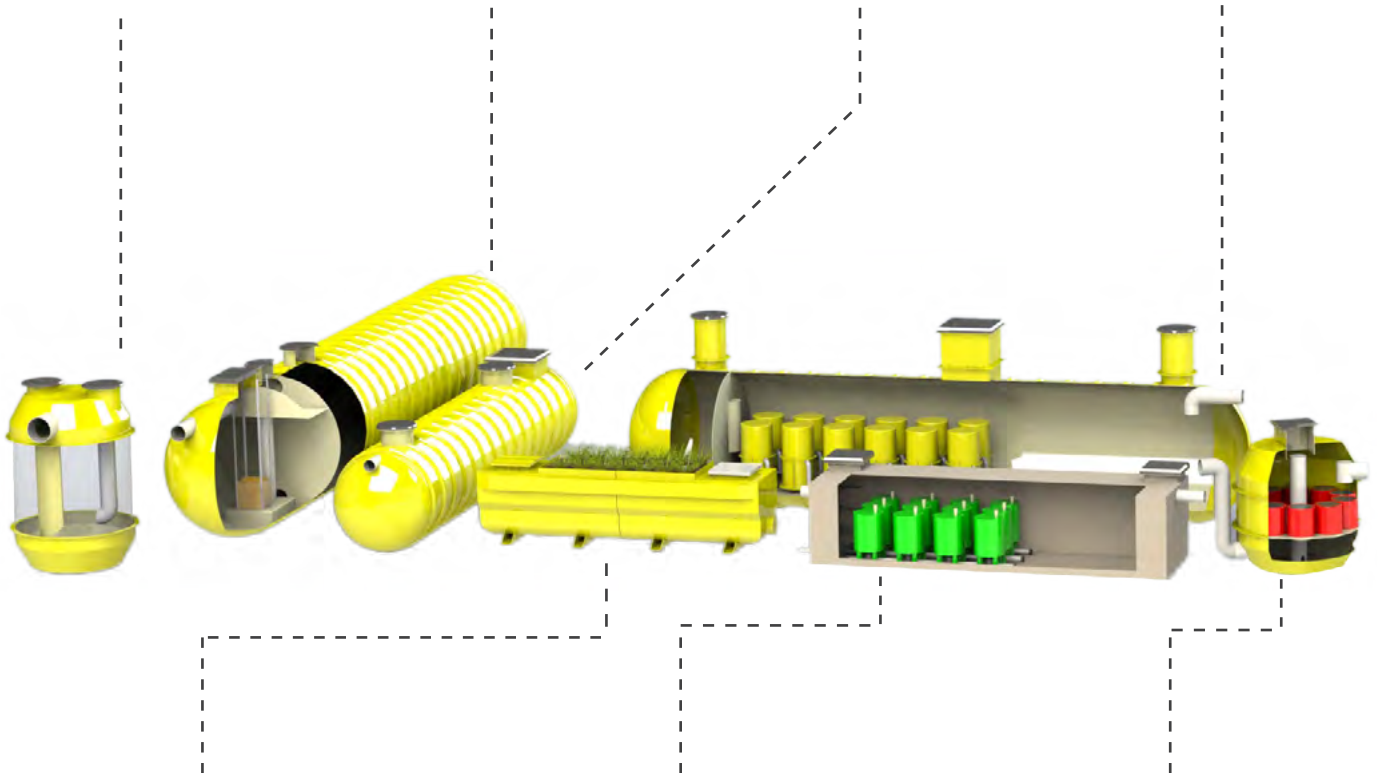


Highly efficient, full retention separator to treat first flush, fine particulates, nutrients, heavy metals and hydrocarbon filtration system.

MaxiProtector



Dual chamber, fine particle, sedimentation and organic pollutant removal treatment with large retention and Bypass.



BIOPROTECTOR



Hydrodynamic, fill capture, high capacity gross pollutant Trap

XTREAMPROTECTOR



Upflow filtration process designed to remove fine sediments, nutrients, heavy metals, phosphorus and hydrocarbons using our exclusive filter stack design.











EnviroProtector



Specialist stormwater filter for heavily polluted areas able to removing heavy metals, TSS, nutrients, hydrocarbons, designed to your requirements.



PROTECTOR

Treatment Stages	Product Requirement		Our Products
 <p>1. Primary Treatment Remove gross pollutants</p>	First flush with oil capture	Gross Pollutant Trap	
 <p>2. Secondary Treatment Remove fine particles, sedimentation & attached pollutants</p>	95% Hydrocarbon capture	Class 1 By-pass Separators	
		Class 1 Full Retention Separators	
 <p>3. Tertiary Treatment Removes very fine/colloidal nutrients & heavy metals</p>	Nutrient reduction and full sediment	90% TSS, 54% TP and 36% TN	
		Heavy Metal, TSS and Nutrient reduction	
		Heavy Metal, TSS and Nutrient	
		TSS, Sediments, nutrients, phosphorus and heavy metal removal	

KEEP IN TOUCH!



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