

THE **SMARTER** WAY TO MANAGE STORMWATER



www.rainsmartsolutions.com

THE RAINSMART ADVANTAGE

**SMARTER GLOBAL
STORMWATER MANAGEMENT
SOLUTIONS**



CORPORATE PROFILE

Rainsmart Solutions Pty Ltd is a unique company which provides engineered environmental solutions in the fields of geo-synthetic, stormwater management, and green roofs.

Rainsmart Solutions is a young dynamic company with vast team experience. The team comprises of professionals from engineering and environmental fields providing a creative and holistic approach to urban development in an environmentally sustainable manner. We offer a comprehensive range of engineered eco-friendly products and technical skills to ensure successful application of our products.

Since commencing business Rainsmart Solutions Pty Ltd. has expanded rapidly to become a leading designer and distributor of innovative landscape & engineering products and applications.

Our product range covers 50mm grass & gravel pavers for permeable car park and traffic surface, 30mm drainage cell for subsurface irrigation for roof & podium gardens, sub-soil drainage tank modules for underground retention, infiltration and stormwater detention tanks, we distribute our product range throughout Australia, Asia, Middle East, Europe and also service many other international markets.

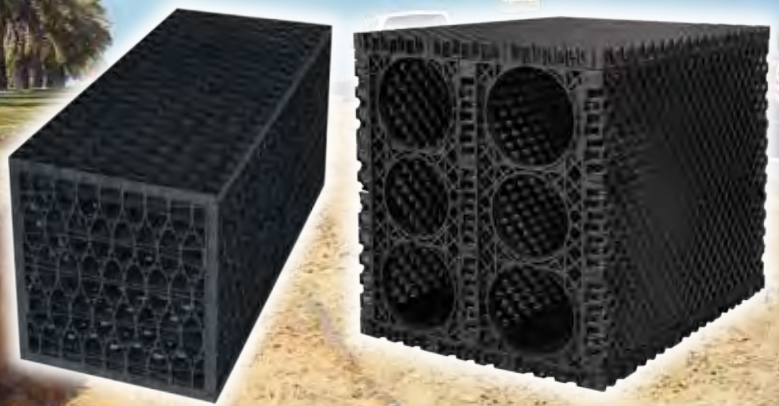
Rainsmart Solutions Pty Ltd. has the support of professionals, dedicated and technically skilled distributor and agent network worldwide that works closely with specifiers and end-users to provide safe, sustainable, cost effective solutions to the construction, engineering and landscape industries.

Our track record is strong, and proven in designing and implementing some of the most complex and unique environmentally friendly projects. Please refer to some of our high profile projects on our "Recent Project" Section of the website.



PRODUCT INSIGHT

RAINSMART MODULAR TANKING SYSTEMS



The Smarter Way To Manage Stormwater

11 REASONS TO CHOOSE RAINSMART MODULAR TANKING SYSTEMS

✓ Heavy load carrying capacity

Ellipse tanks have a very high loading bearing capacity to be installed under driveway and car parks.

✓ Modular structure provides design flexibility

Modular nature of the system helps designers to create any shape any size, and fit in tight spots.

✓ High void ratio providing maximum Storage

The Modules have 95% void ratio, meaning more water stored in less space, minimising excavation cost and site disruption.

✓ Quick and Lightweight Easy to Install

The modules are light weight and can be installed using unskilled labour without any heavy machinery.

✓ Available in Kit form

Supplied in Kit form for easy delivery and handling, and reduce transport costs.

✓ High void surface ratio

95% surface void ratio, ensures larger contact area for quick infiltration and no traditional clogging problems for soakaways.

✓ Enhances water quality

Achieves higher pollutant removal rates through soil filtration and accelerated microbial actions (bio-remediation).

✓ Reduces costs and economical to use

Provides a low cost alternatives to traditional drainage pipes for conveyance with added benefit of groundwater recharge and water quality enhancement.

✓ Environmentally friendly

Made from recycled Polypropylene.

✓ Safety and Human benefits

Sub-surface underground storage on site, eliminates traditional problems like downstream flooding, mosquito and vermin breeding grounds.

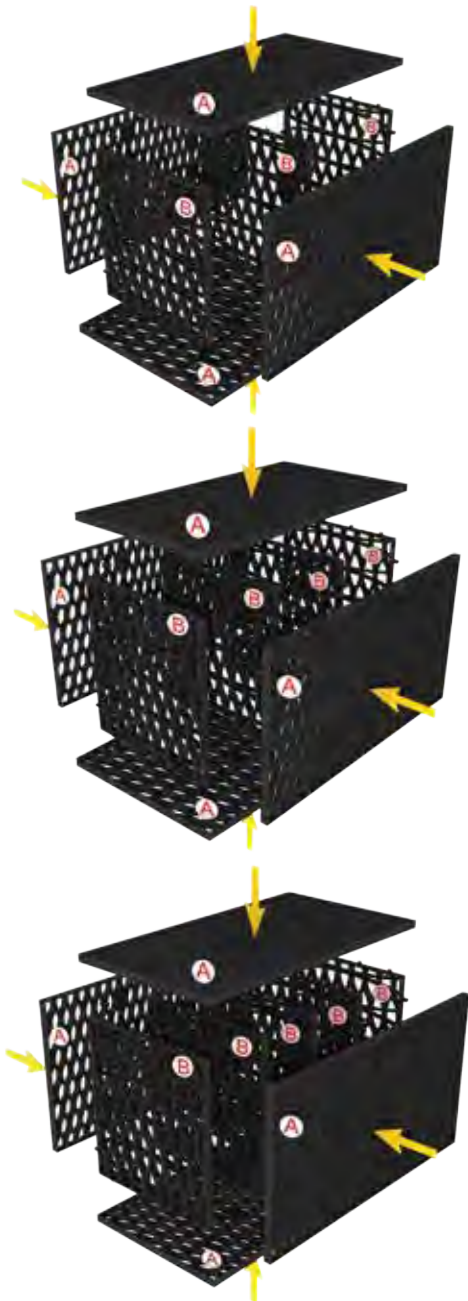
✓ Maximum Land utilization

Multiple use area, underground storage with useable surface space.



STRENGTH WITH FLEXIBILITY

Rainsmart modular tanking systems are made from selected high quality resin under strict QA/QC for superior performance.



Water Quality & Quantity should be given equal importance when designing a stormwater system. In nature prior to development stormwater infiltrates into vegetated and non vegetated areas with suspended solids and other impurities neutralised and consumed by micro organism which are present in the soils providing nutrients to vegetation.

Based on the principles of Nature Rainsmart Solutions has developed its new environmentally friendly range of Ellipse Tanking system.

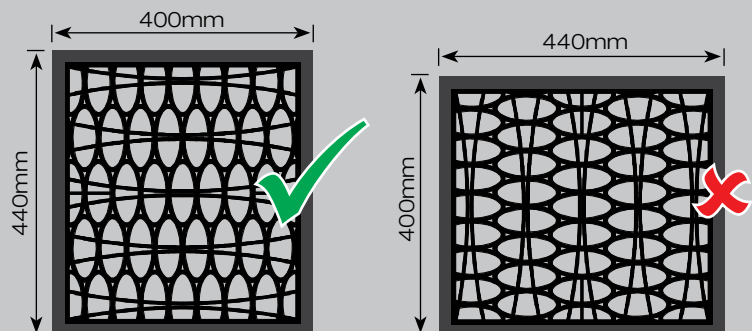
Ellipse tank modules are multi stackable structures and distribute loads uniformly across the surface, resulting in excess of H-20 loading surface with 95% underground void surface for maximum water storage, providing developers more usable space.

Rainsmart tanks supersede gravel trenches and other gravel based systems by far, Rainsmart tanking system doesn't require any aggregate backfill between structures. Therefore significant saving in the amount of excavation, soil transport, importing clean aggregate, installation time and labour cost are achieved.

Lightweight modules are quick and easy to install without any use of heavy machinery, thus reducing installation time and machinery cost. As these tanks are buried underground and are maintenance free, all Stormwater entering should be pre-filtered.

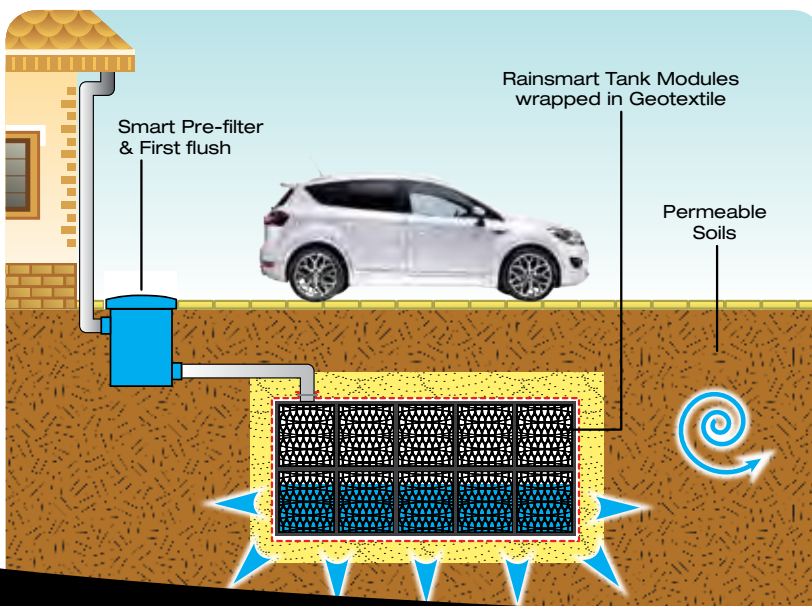
CORRECT ORIENTATION

Ellipse tanks must be installed in the correct orientation for maximum load bearing capacity and performance.



MODULAR TANK APPLICATIONS

INFILTRATION SYSTEM (SOAKWAY)



Infiltration is the most preferred method of stormwater management in permeable soils when downstream discharge facilities are not present or when the post development permitted discharge volume is limited.

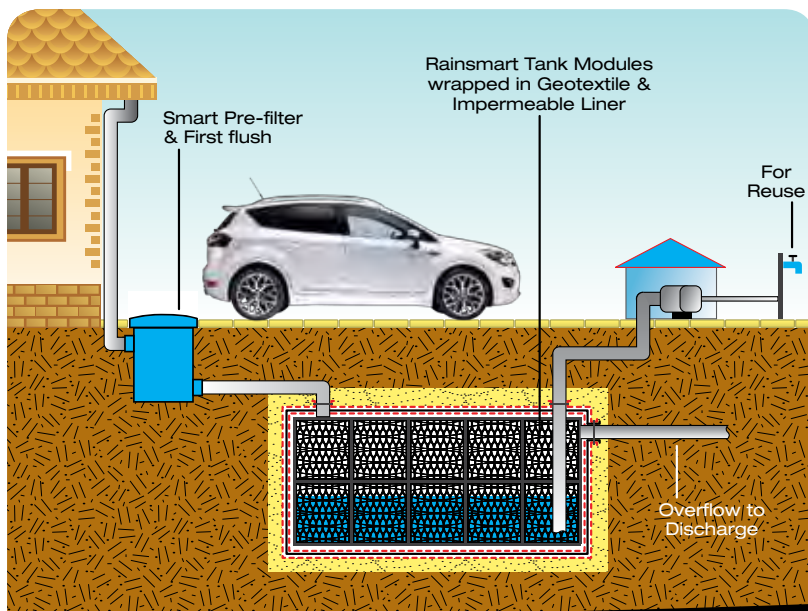
The Rainsmart tank modules are wrapped in needle punched nonwoven Geotextile and buried in porous permeable soils.

The 95% surface void of the modules ensures maximum contact area for absorption and ensures that the system will never have traditional problems of clogging associated with infiltration systems.

Infiltration system helps to recharge the groundwater aquifers and provide moisture for the surrounding vegetation. Infiltration systems are EPA recognised best management practice.

MODULAR TANK APPLICATIONS

RETENTION SYSTEM (RECYCLING)



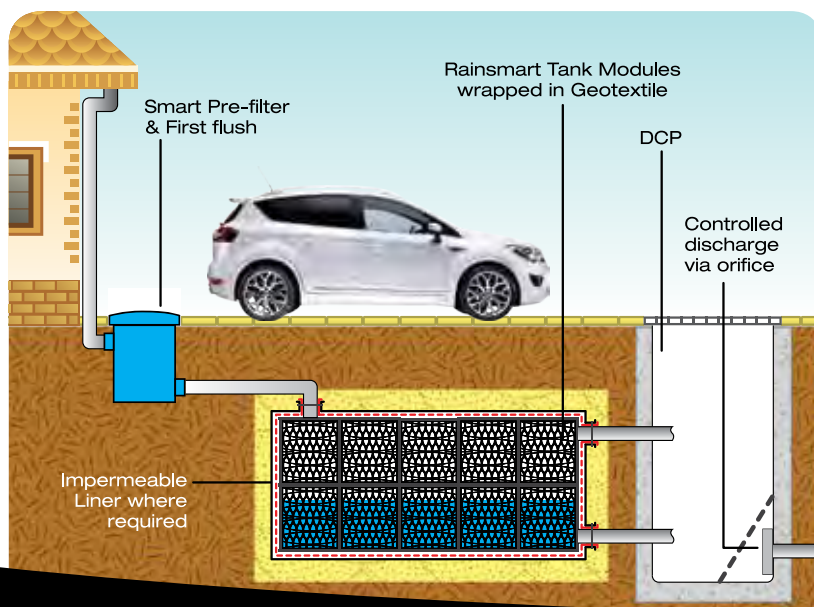
Rainwater harvesting has become more economical and a smarter approach to water management. This approach ensures stormwater is a precious resource rather than a problem.

In recent years Rainwater recycling concepts have made some water critical projects possible. Stormwater collected from impermeable surfaces like roofs, driveway, parking lots and roads can be filtered and stored underground in tanks for future use.

The tank modules are wrapped in high strength impermeable liner to avoid any water loss. The tank can be accessed via a surface pump through the common inspection and take off point. The rainwater can be used for irrigation of landscaped area, fire protection, car washing and/or industrial processes for thermal energy transfer. Rainwater can be used for household usage with appropriate online carbon and UV filters.

MODULAR TANK APPLICATIONS

DETENTION SYSTEM (ATTENUATION)



Temporary storage and discharging stormwater at a predetermined rate through a DCP (discharge control pit) with an orifice is known as Detention.

This is one of the most common methods used in urban areas with downstream drainage facility. The slow discharge is to avoid downstream flooding and disturbing the water ways through erosion.

A normal detention system will have the tank wrapped in a needle punched non woven Geotextile, thus allowing stormwater to infiltrate in the surrounding soils while being discharged at a predetermined rate through the DCP.

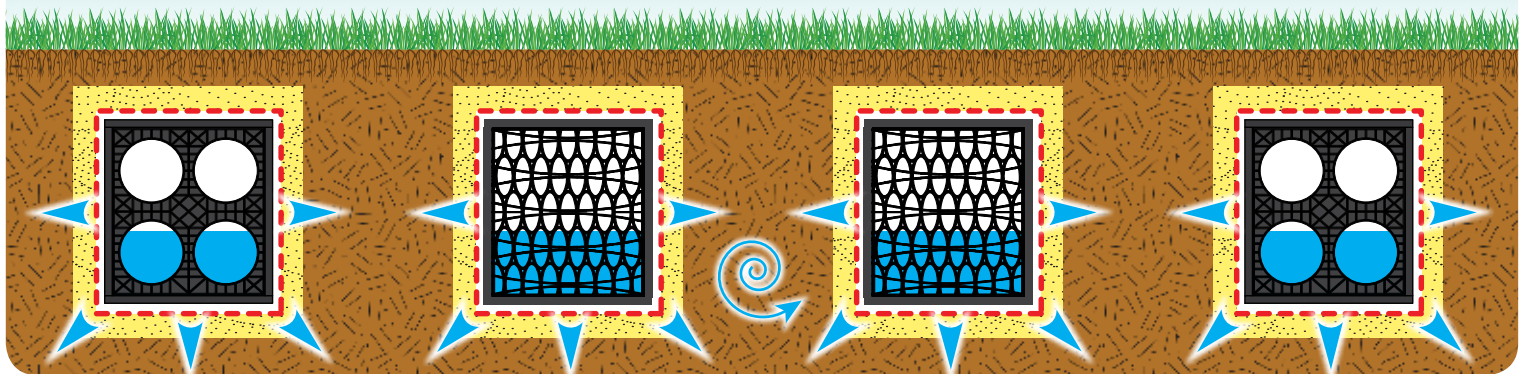
Some authorities prefer NOT to have infiltration, due to soil conditions and proximity to the building and boundaries; in such cases the tank is wrapped with an Impermeable liner to prevent infiltration.

MODULAR TANK APPLICATIONS

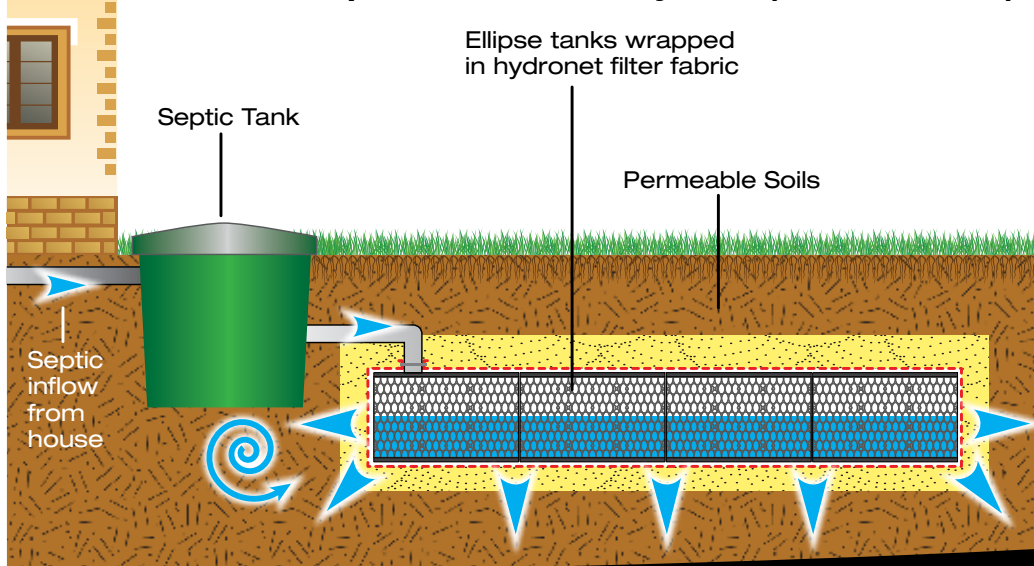
LEACH DRAIN - SEPTIC SYSTEM



Septic Leach Drain System (side view A-A)



Septic Leach Drain System (side view B-B)

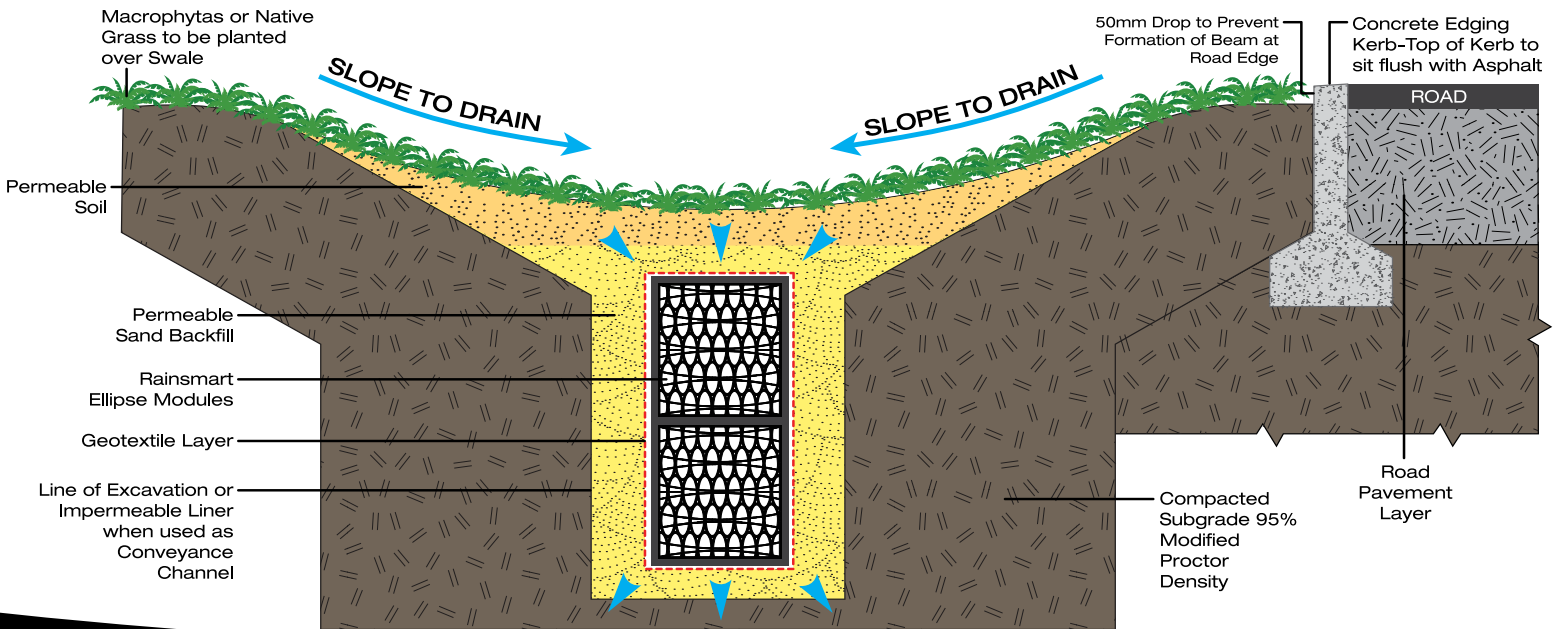


Rainsmart tank modules are lightweight and high strength, polypropylene tank with 95% void space. Tank modules are assembled on site and easily positioned in the excavated trench to form a continuous channel. Inlet pipe is connected from the top of the tank prior to wrapping in hydronet woven Geotextile on the top sides and ends. The full structure is then backfilled clean sand or gravel.

Rainsmart septic systems are three times more efficient in leaching, as compared to traditional gravel systems and don't have any traditional clogging issues.

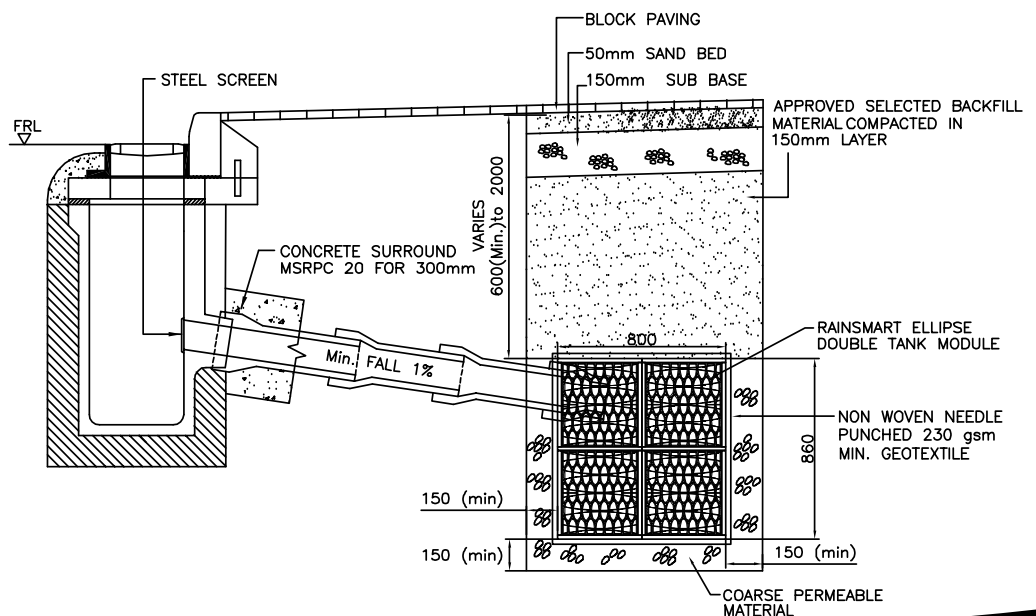
MODULAR TANK APPLICATIONS

LOW IMPACT DEVELOPMENTS - GRASS SWALE



MODULAR TANK APPLICATIONS

LOW IMPACT DEVELOPMENTS - ECOLOGICAL ROADS



MODULAR TANK APPLICATIONS

COMMERCIAL CAR PARKING LOTS



Over decades the land use pattern of urban development has driven the regulatory focus from point source pollution (industries) to non point source pollutants (contamination from parking lots, roads and other non permeable surfaces) this is primarily due to the increased impermeable surface.

Stormwater travelling across these impermeable surfaces collect solids and dissolved micro & macro pollutants which potentially contaminate our downstream water ways.

Consequently, many planners, local authorities and developers are using permeable paving and on site water retention systems, as they can be more cost effective then the traditional collection and dispersal systems.

They also offer significant environmental advantages, such as natural breakdown of pollutants, replenishment of aquifers, and the possibility of water harvesting.

Rainsmart Tanks and Nero pave provide a perfect point source solution for permeable and semi permeable car parks, with underground storage system for stormwater.



MODULAR TANK APPLICATIONS

SPORTS FIELDS



Advantages:

- Consistent playing surface in all weather conditions
- Rapid & Effective Drainage
- Increased moisture retention & root zone aeration
- Usage all year around, enhancing profitability
- Reuse of water allowing a reduction in water costs
- High reduction of chemical fertilizers
- Reduces contamination of local waterways.

Sports field consume million of litres of fresh water every year, the drainage systems for sports fields are based on the principles of gravity and capillary action. Rainsmart Sports field Drainage system is combination of 30mm Nero Drainage Cell and Ellipse Tank Modules, which allows play in extreme weather conditions.

The system provides instantaneous access water removal

and stores it underground for future use. The Nero Drainage Cell forms a uniform blanket or strips for sub-surface drainage under the playing area. This provides effective water removal from the playing surface at an acceptable rate while creating a perched water table that promotes sustained healthy growth of turf and allows immediate use of the field after a rain event.

This drainage cell layer is simply connected to an Underground Storage Tank comprising of Ellipse tanks wrapped in an Impermeable Liner to store water for future irrigation needs. The system also reduces contamination of local waterways from leached nutrients.

A simple storage and reticulation system can provide recirculation of irrigation water thereby drastically reducing imported fresh water for irrigation. Water collected will be of sufficient quality to allow immediate pumping without further filtration. The system also allows continuous circulation of dissolved fertilizers and replaces the need of additional chemicals.

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NOTE: All RainSmart Products and Systems are Design Registered or Design Registration Pending.

Safety Factors: Engineers, designers and geotechnical engineers should design and calculate safety factors to a serviceable limited state to suit specific project. In case of doubt, consult your nearest distributor or representative.

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