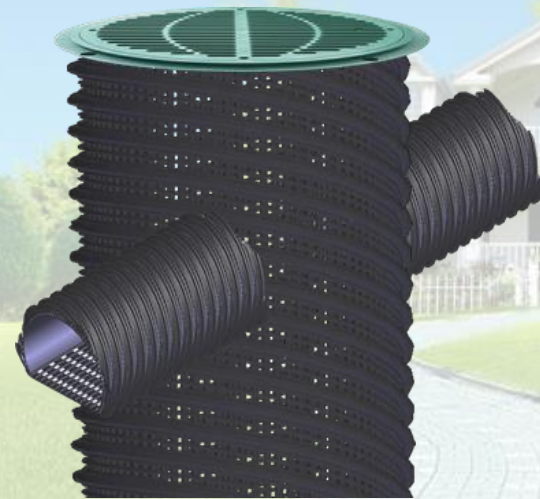




ECO-MESH
Water Solution

Green Infrastructure Program

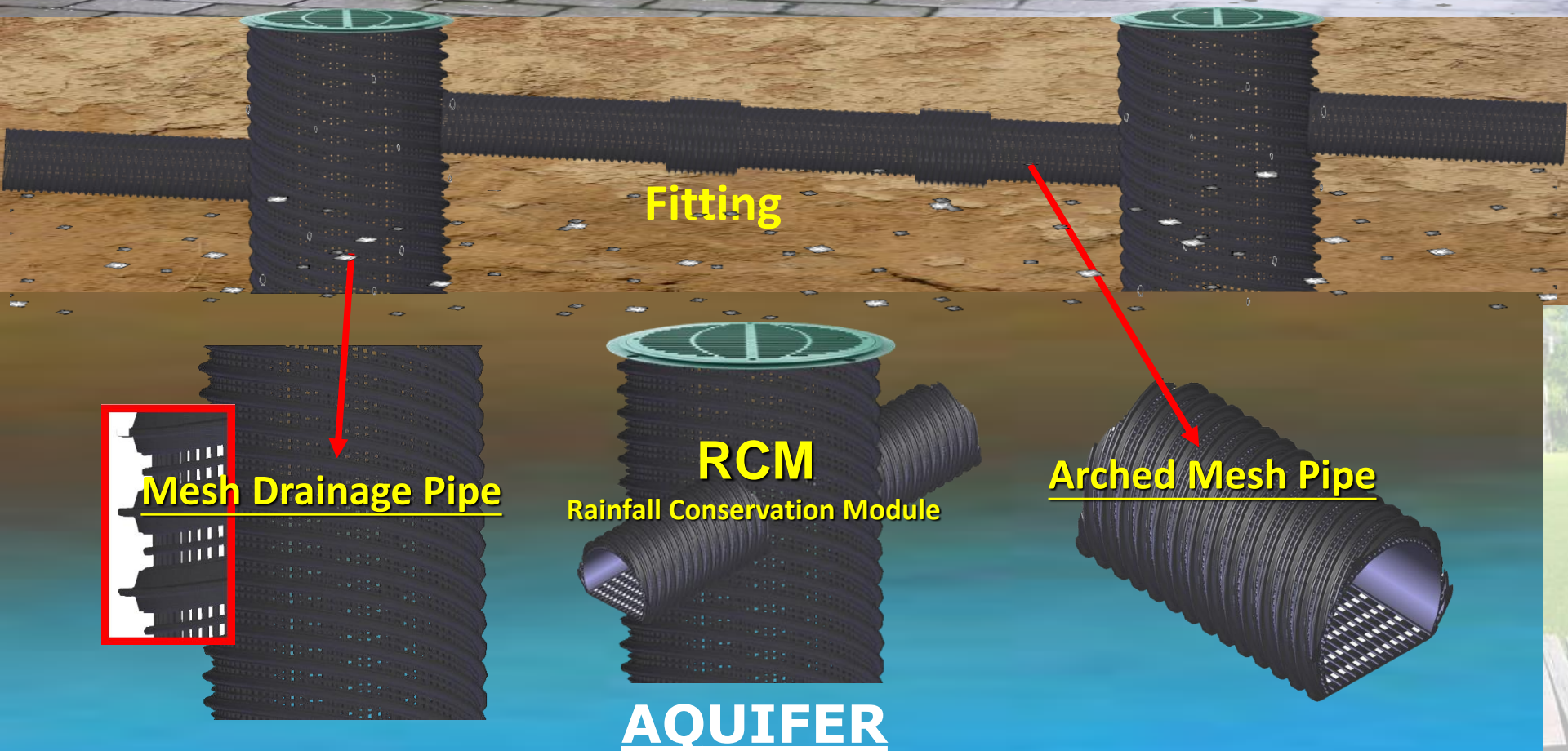
RCM-Rainfall Conservation Module **Stormwater Management and Solution**



Promote Stormwater infiltration, retention, and create a comfortable and healthy ecological environment.

RCM-Economical & Simple Solution

RCM-Rainfall Conservation Module Composes of
Vertical Mesh Drainage Wells and Horizontal Arched Mesh Pipe





Mesh Drainage Wells collection of surface water is diverted into the ground and percolated to aquifer.



RCM-Rainfall Conservation Module

Promote Stormwater Infiltration

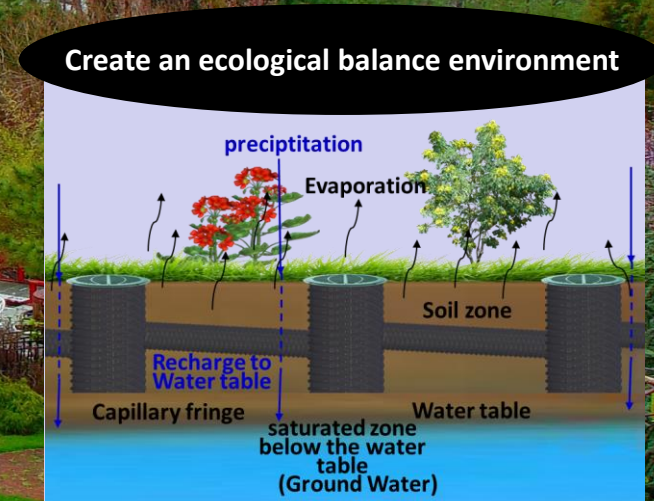
CONSERVATION AQUIFER



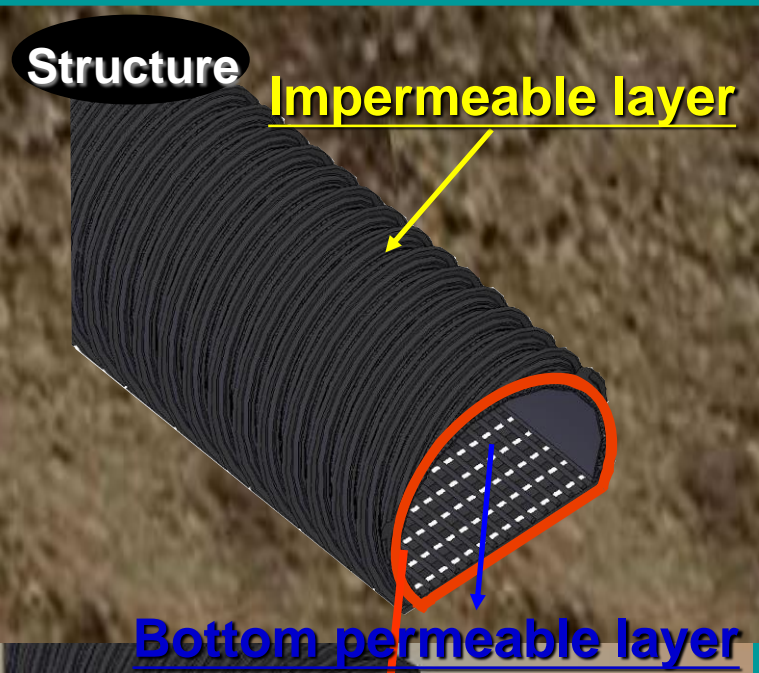
RCM-Stormwater Retention

Promotes Stormwater permeation
and ecological balance

Supports a beautiful garden
without irrigation



Unique Characteristics of Arched Mesh Pipe



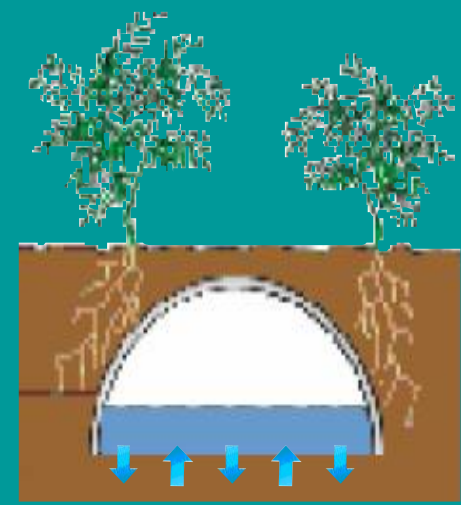
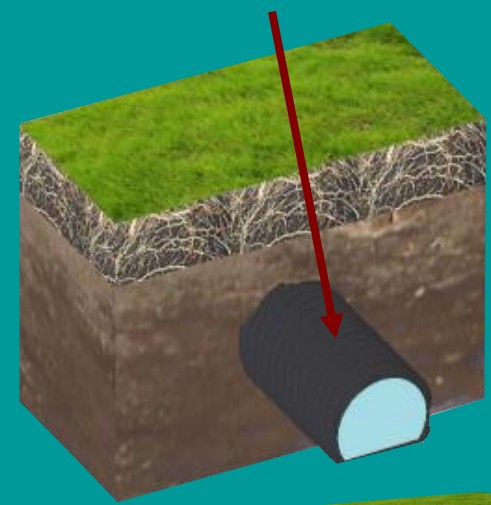
Principle

Half round design

Soil density higher than water
Natural sink of soil particles due to gravity
water chamber obstruction is prevented

Filter Material-Free
Clog-resistant

Arched Mesh Pipe



Traditional installation



Gravel
Non-woven fabric

Traditional subsoil drainage pipe

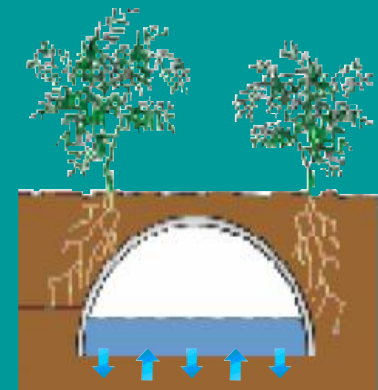


Arched Mesh Pipe –Unique Characteristics

Arched Mesh pipe does not need to use gravel, grading, non-woven fabrics and other filter materials, The Mesh Pipe is not blocked, and the ecological engineering method is the best underground collection and drainage material.

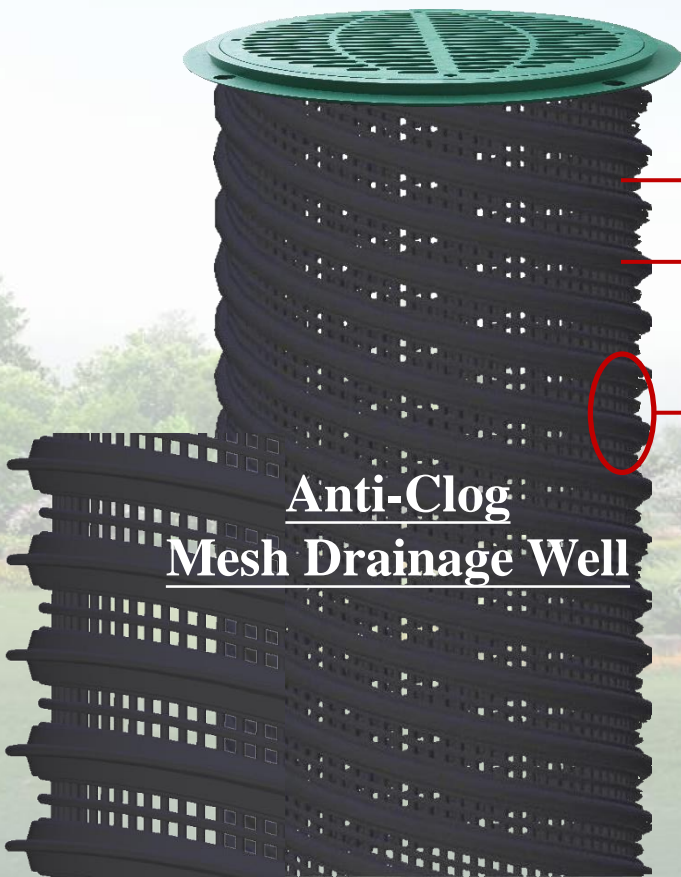
Arched Mesh Pipe Feature

Most of the traditional water-permeable pipes are slotted in the upper part, and there is no opening in the lower part of the inlet water. Therefore, the soil particles inevitably penetrate into the pipe along with the water flow, and gradually accumulate around the outer pores of the pipe until the blockage, Arched Mesh Pipe is changed to a half-moon design. The half-moon type is an impermeable layer, the flat part is a mesh-shaped permeable layer, and the buried flat part is a mesh-shaped permeable layer downward, so that the water flows from bottom to top into the water conduit. As soon as the soil particles naturally sink into the temple due to gravity, they will not flow into the water pipe along with the water, and will not cause siltation near the sink groove. However, the downward groove can not only enter the water, but also cause water absorption. When water enters, the siphon phenomenon naturally produces a pumping effect on the moisture in the soil, and is discharged outward by gravity flow. When the water reaches the outlet, it will cause a siphon effect due to the drop, further generating a negative pressure inside the soil, and greatly increasing the suction and drainage effectiveness.



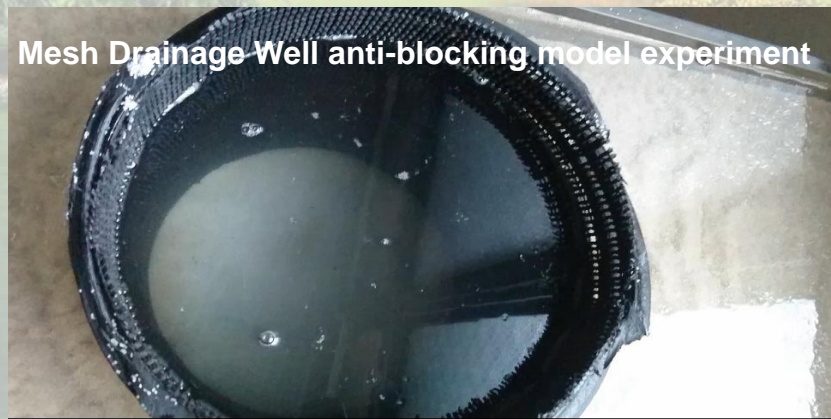
Mesh Drainage Wells–Unique Characteristics

Mesh Drainage Well does not need to use gravel, grading, non-woven fabrics and other filter materials, The Mesh Pipe is not blocked, and the ecological engineering method is the best underground collection and drainage material.

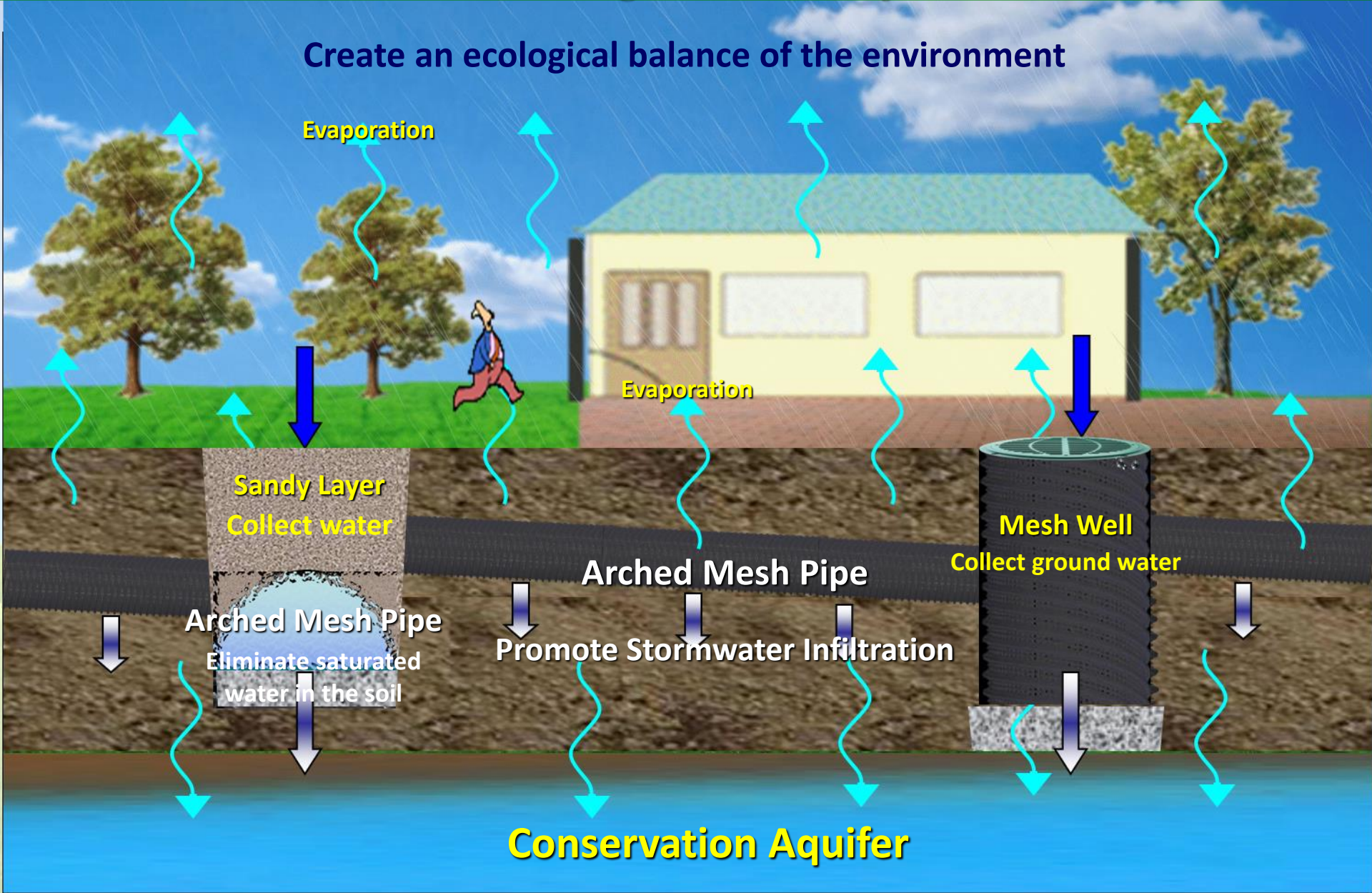


Mesh Drainage Wells–Unique Characteristics

- The sidewall openings are high-density mesh design.
- The sidewall has T-type thread design and high compressive resistance.
- *Mesh Drainage Pipe sidewall is Anti-Clog and minimizes soil entry without extra filter material, such as non-woven fabric.*



Create an ecological balance of the environment

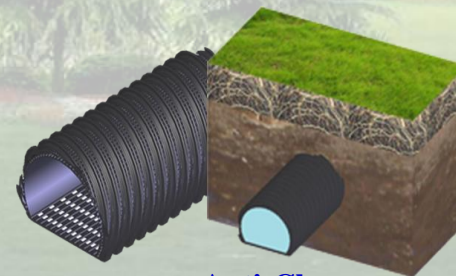
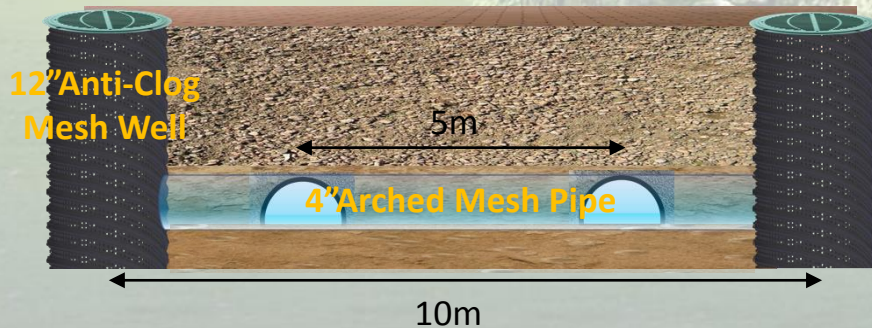
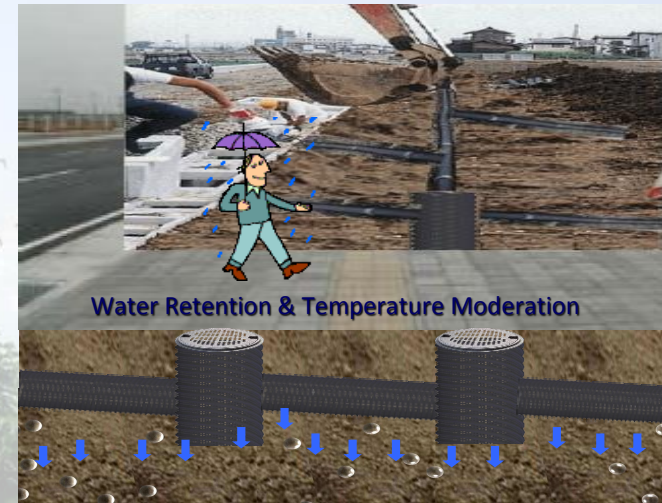
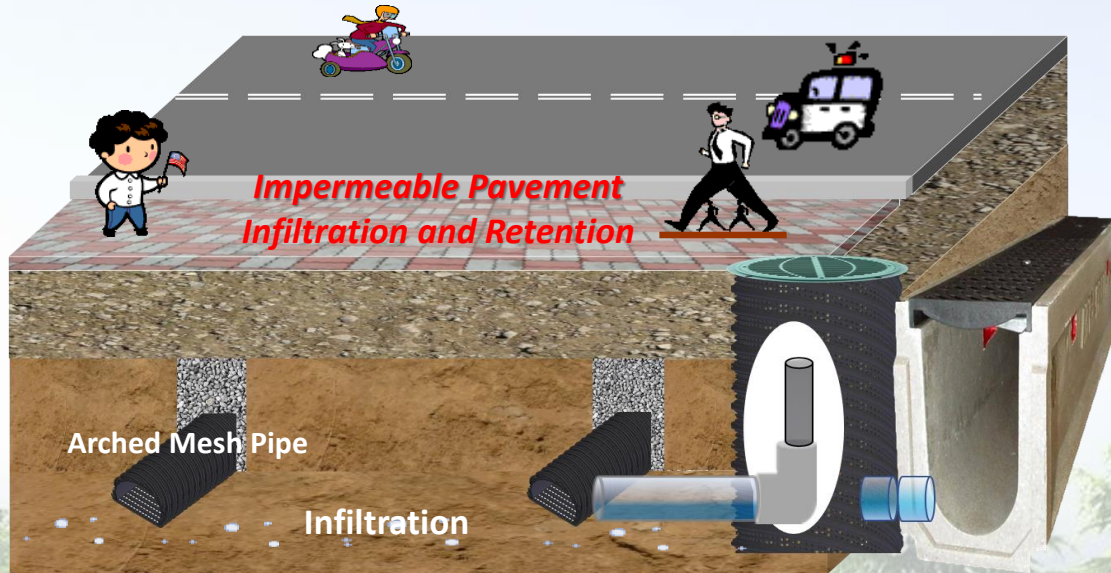


Green Infrastructure Program

Stormwater Management and Solution

RCM-Impermeable Pavement Drainage

RCM-Runoff · Infiltration · Retention

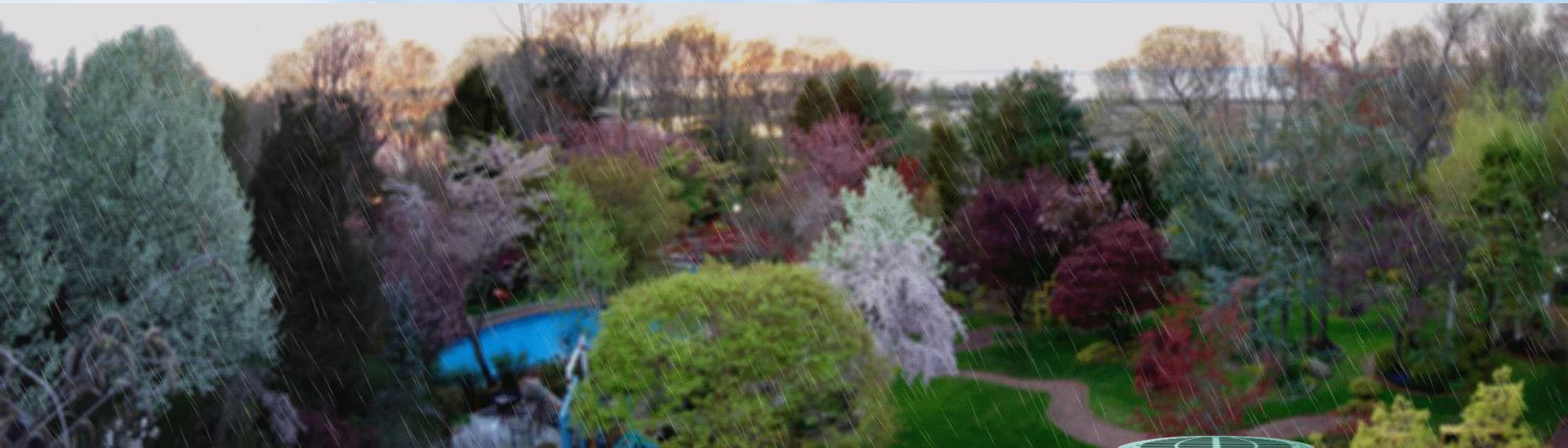




ECO-MESH
Water Solution

RCM-Rainfall Conservation Module

Function

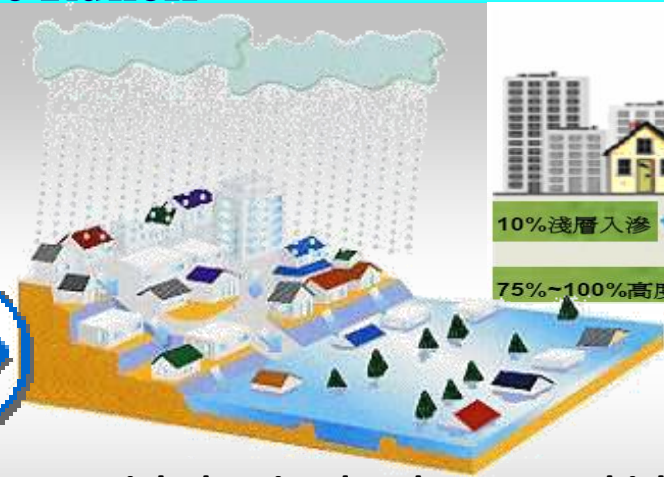
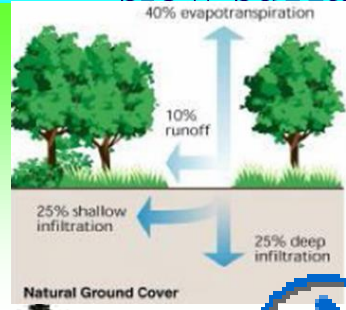


Promote Stormwater Infiltration

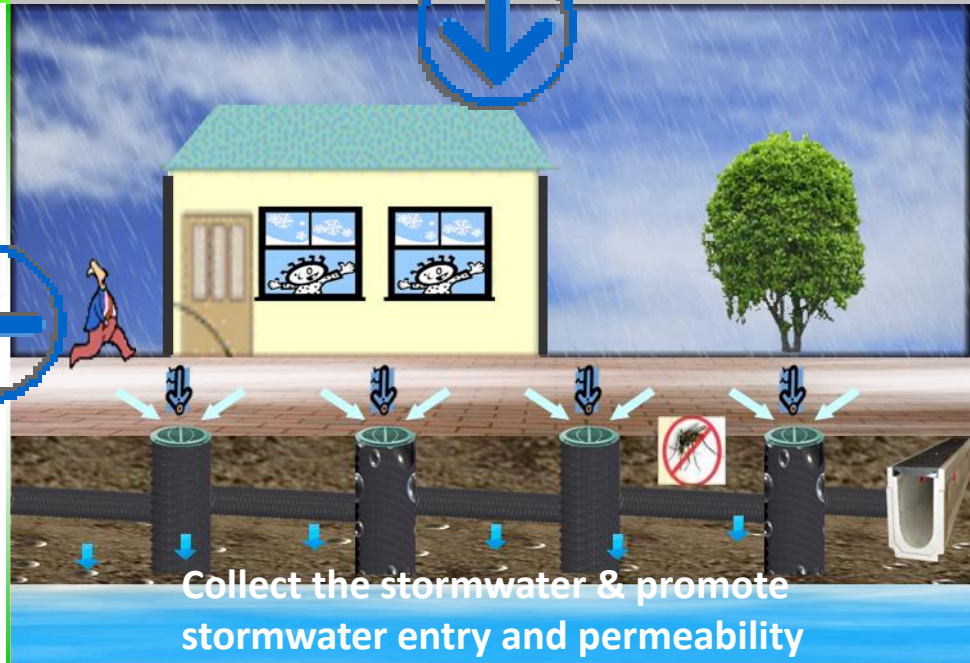
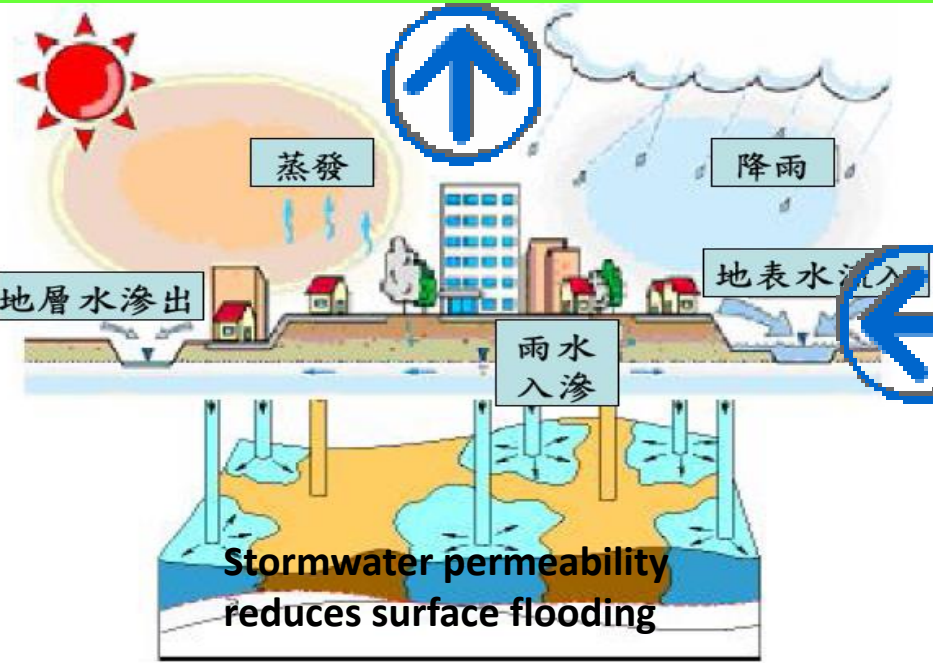
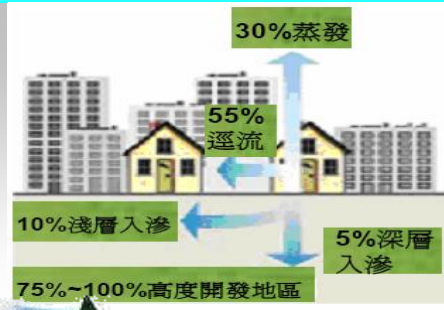
slow surface Runoff



Undeveloped areas have adequate surface area to absorb Rainfall



High density development which does not have adequate water absorption surface areas will cause flooding

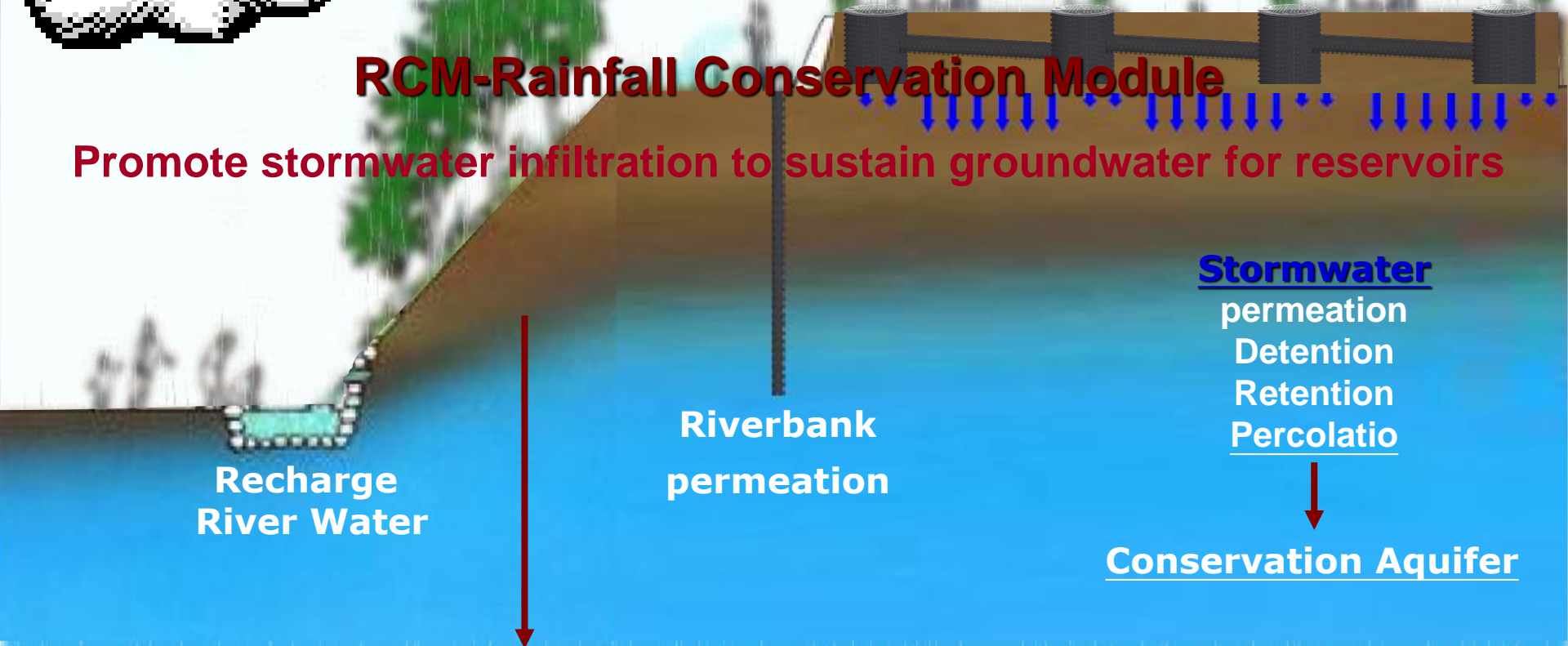


Stormwater Infiltration Retention

Create an ecological balance environment

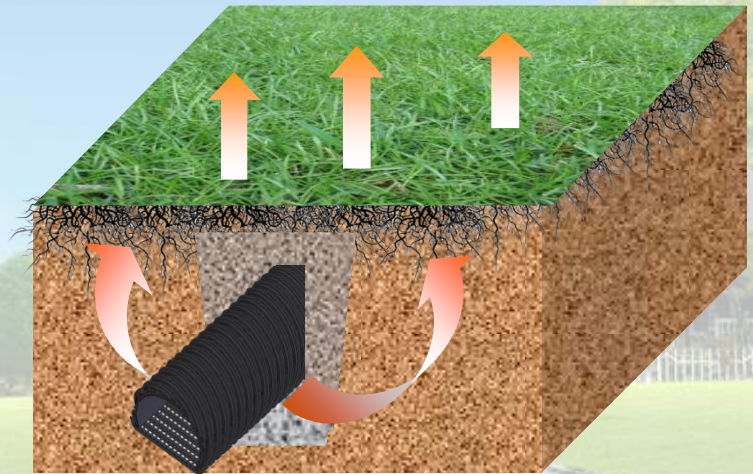
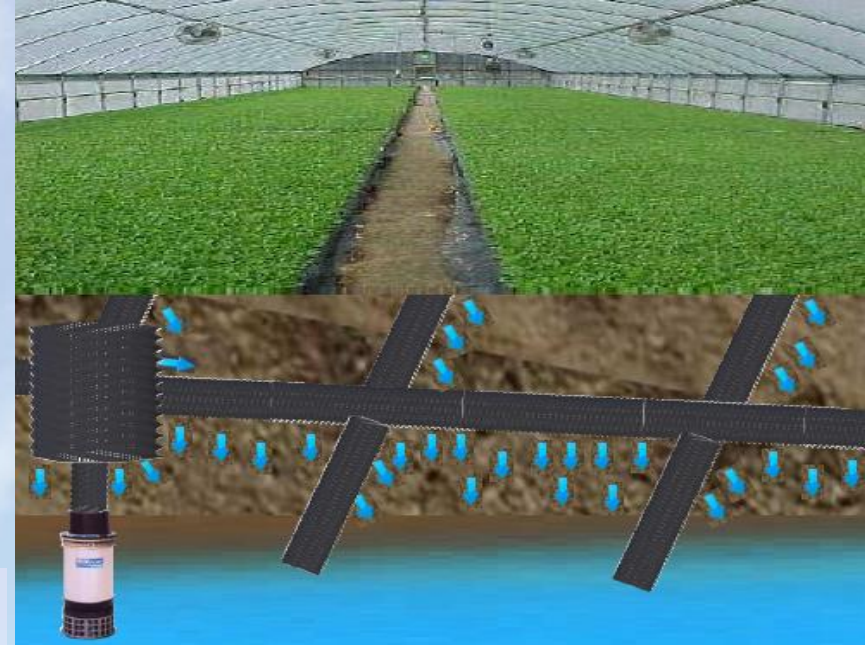
RCM-Rainfall Conservation Module

Promote stormwater infiltration to sustain groundwater for reservoirs



10 km² stores up to 200 million tons of groundwater

RCM-Economical & Simple Solution



**Mitigates
Heating Island Effect**

RCM - Rainfall Conservation Module

Water Retention & Drainage Moderates Climate Impact

Circulates underground constant temperature & moderates climate.

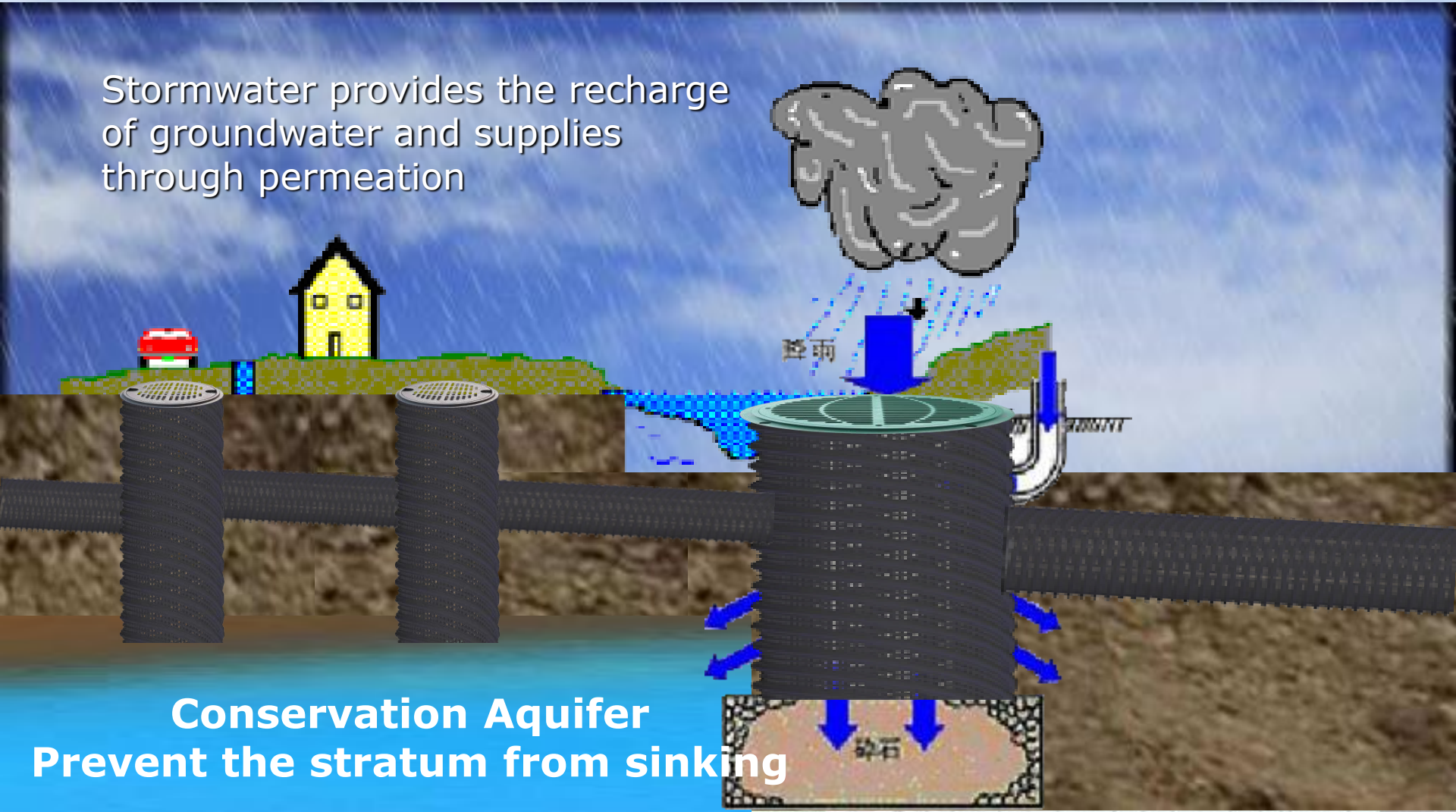


Recharge groundwater

Land Subsidence – Resistant

Without Land Erosion

Stormwater provides the recharge of groundwater and supplies through permeation



Conservation Aquifer
Prevent the stratum from sinking



ECO-MESH
Water Solution

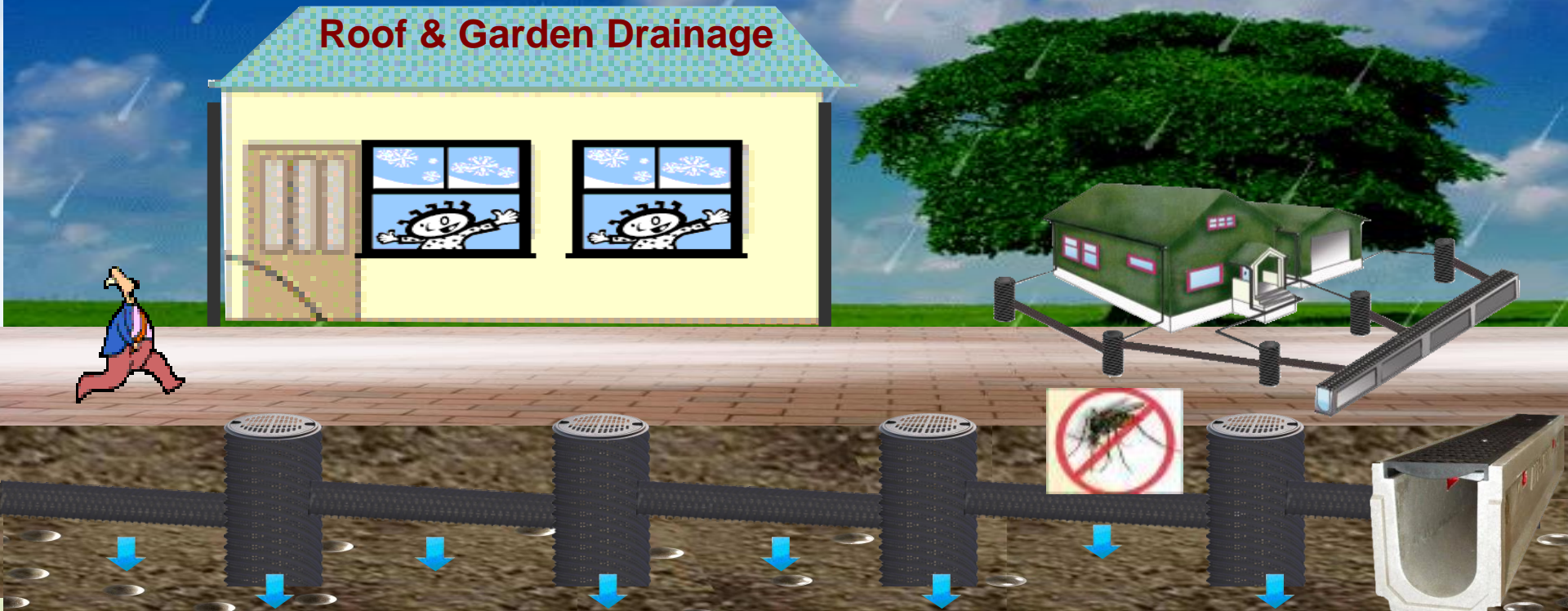
RCM-Rainfall Conservation module Water Retention - Applications



RCM - Rainfall Conservation Module

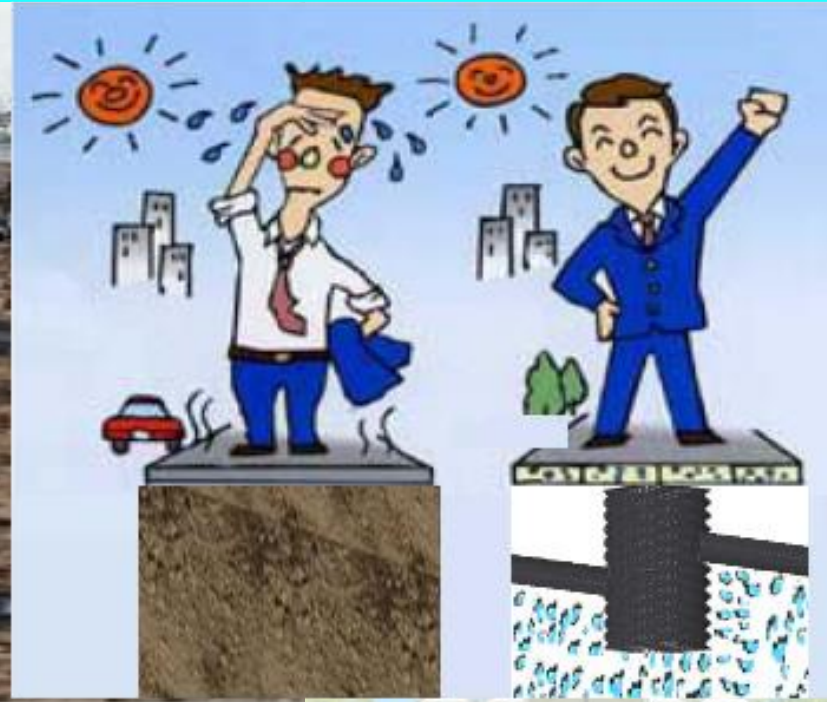
Environment Protection

Easy to install, Cost effective, Clog resistant



1. RCM can replace traditional cement drainage facilities and save installation costs up to 30%.
2. Using ecological engineering construction method, it is quick and easy.
3. To keep land completeness.
4. To reinforce Rainfall permeation and reduce the burden of storm sewer.
5. To provide soil with ventilation for keeping plant growth and health fast.
6. The invisible permeation drainage system circulates water through the stack effect resulting in stable climate.
7. Because of Rainfall permeation, there is no stagnant water through the drainage. Thus there is no mosquito breeding environment. Therefore RCM is the best approach for prevention and treatment of dengue fever through the drainage system.

Pavement Stormwater Drainage



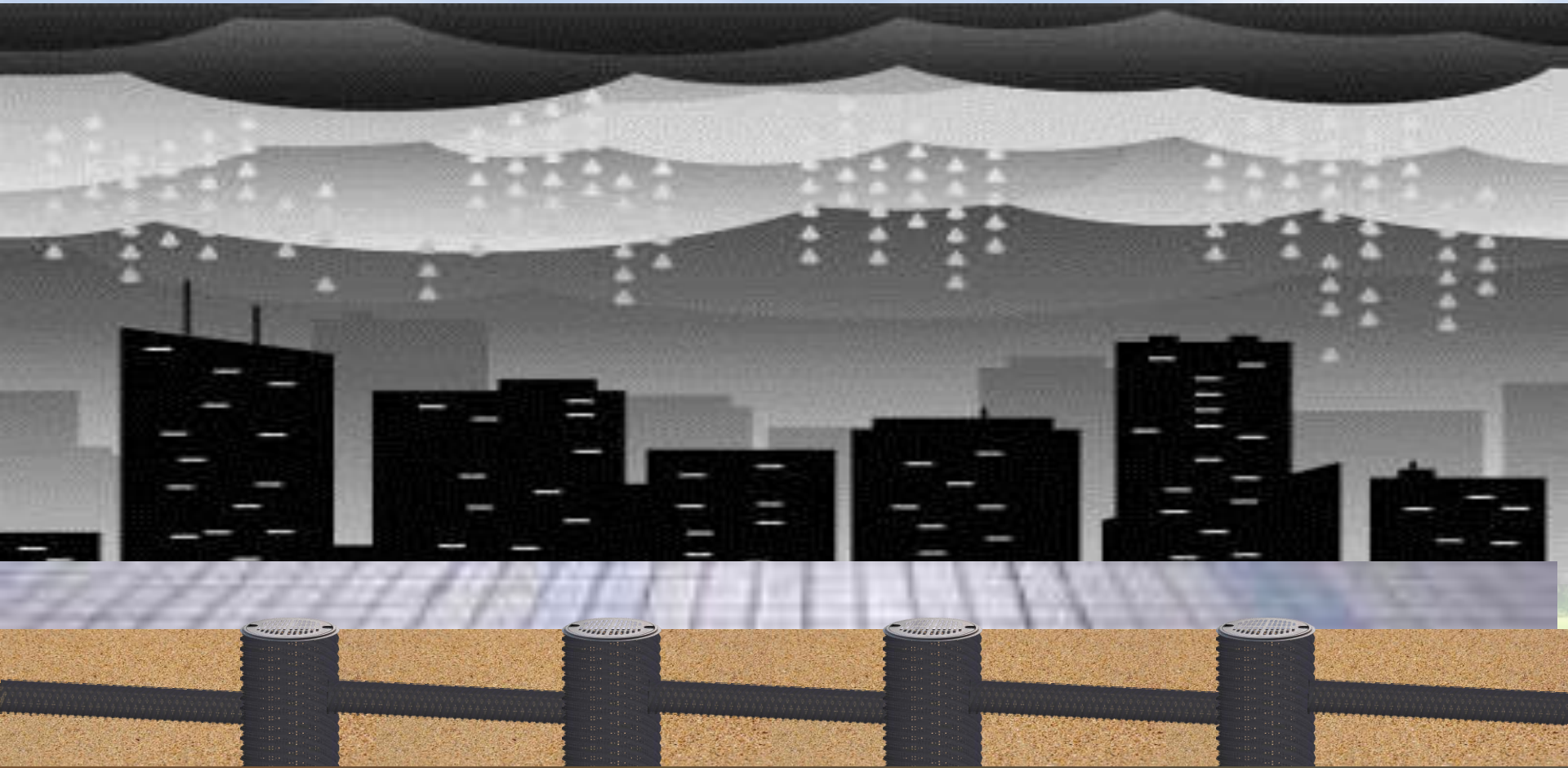
Water Retention & Temperature Moderation



The best method for pavement drainage
RCM - Rainfall Conservation Module

RCM System- Industrial Park drainage

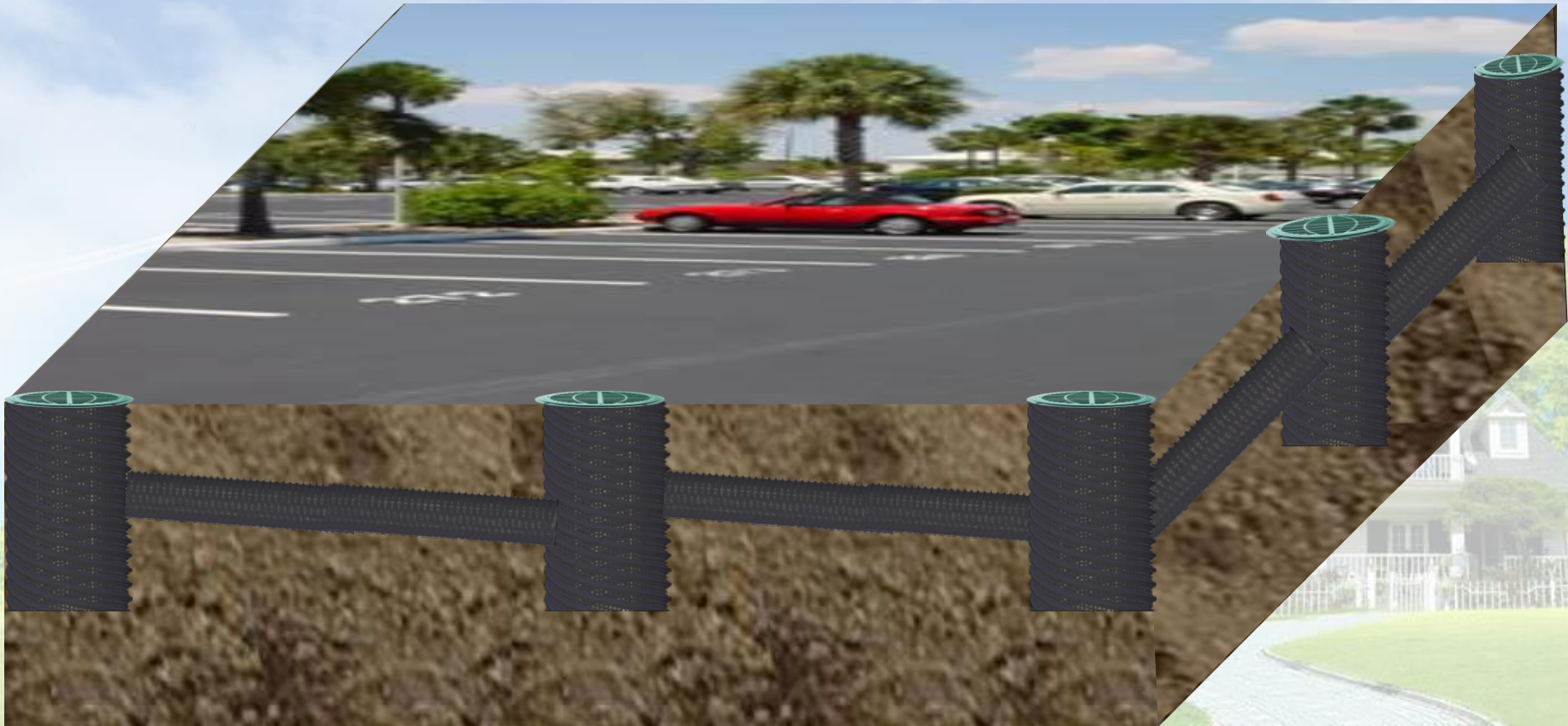
Promote Rainfall infiltration to reduce the field of sewage treatment capacity



Conservation aquifer

RCM – Parking Lot Water Retention and Drainage

Promote Stormwater Infiltration and Water Retention



RCM-Roadside Water Retention and Drainage



Divider Water Retention, Irrigation and Drainage



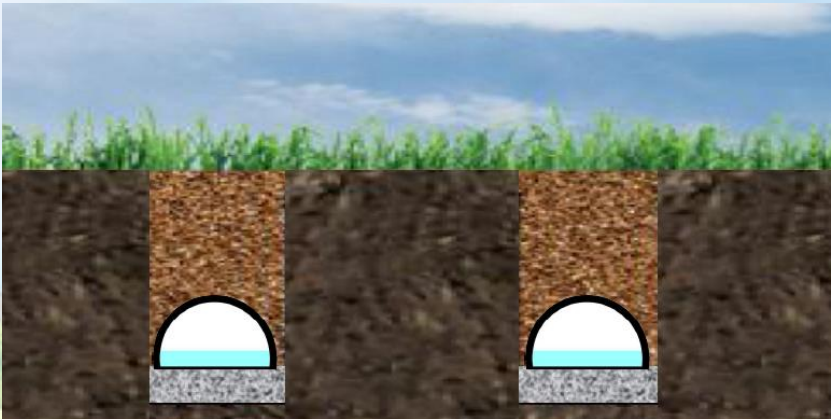
Pavement Water Retention, Irrigation and Drainage



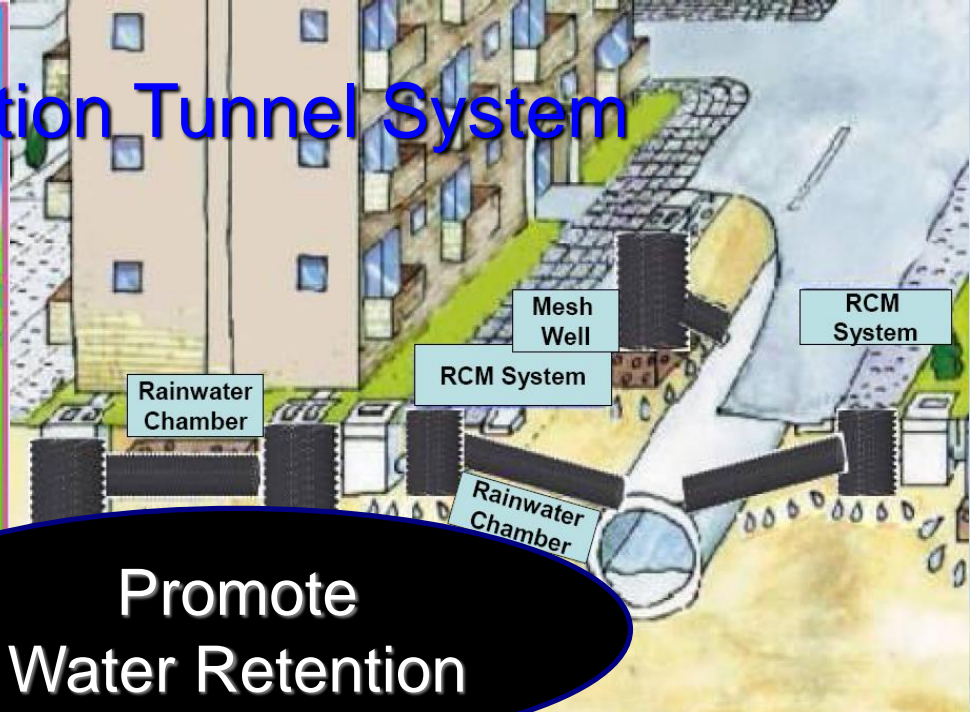
Roadside Water Retention and Drainage



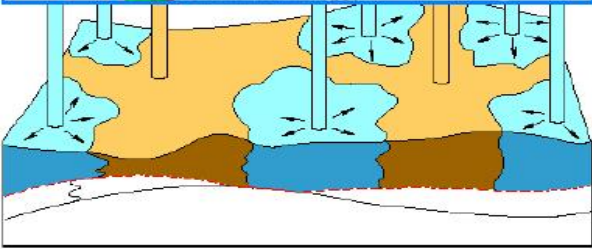
RCM - Park Drainage, Irrigation *Water Retention and Drainage*



Stormwater Retention Tunnel System



Promote Water Retention



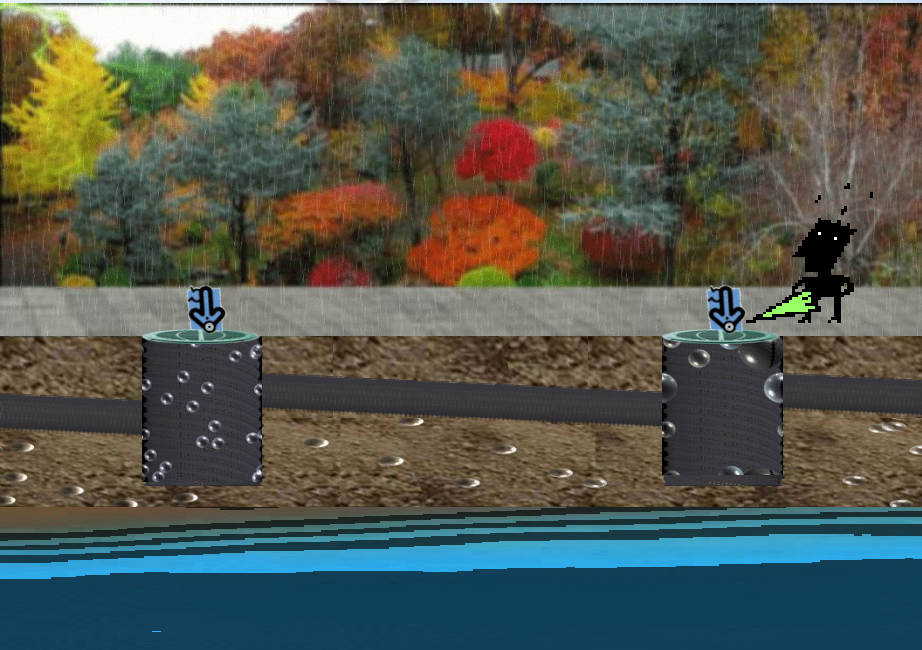
RCM Tunnel System facilities low cost, without mutual links, the Government consider Rainfall drainage system should be based on RCM Tunnel System to the main base water drainage system, will not only save a lot of construction funds, can be reached water retention, Rainfall Recycling, saving precious water sources and reduce water and more efficient use of water resources in the real implementation of the objectives.



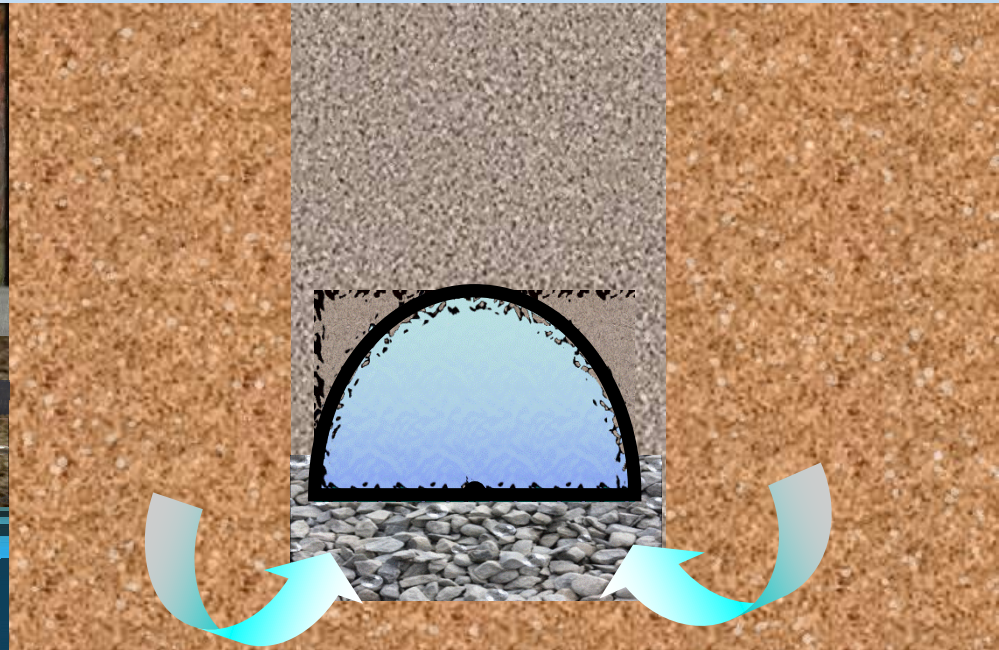
ECO-MESH
Water Solution

Rainfall Conservation module - *RCM*

Water Retention- Experimental Part



Surface Drainage



Subsurface Drainage

Experiment of artificial rainfall permeability

Validation of flood mitigation and improvement of permeation well system

- Goals
 - Compare the Rainfall permeation ability between the site with and without the permeation well system®
 - Validate the effect of permeation well system® on the soil water content in sites.
- Supported
 - This project is financially supported by the National Science Council of Taiwan and conducted by Prof. Tzu-Ping Lin in National Formosa university, Taiwan.



Experiment of artificial rainfall permeability



Experimental
Section

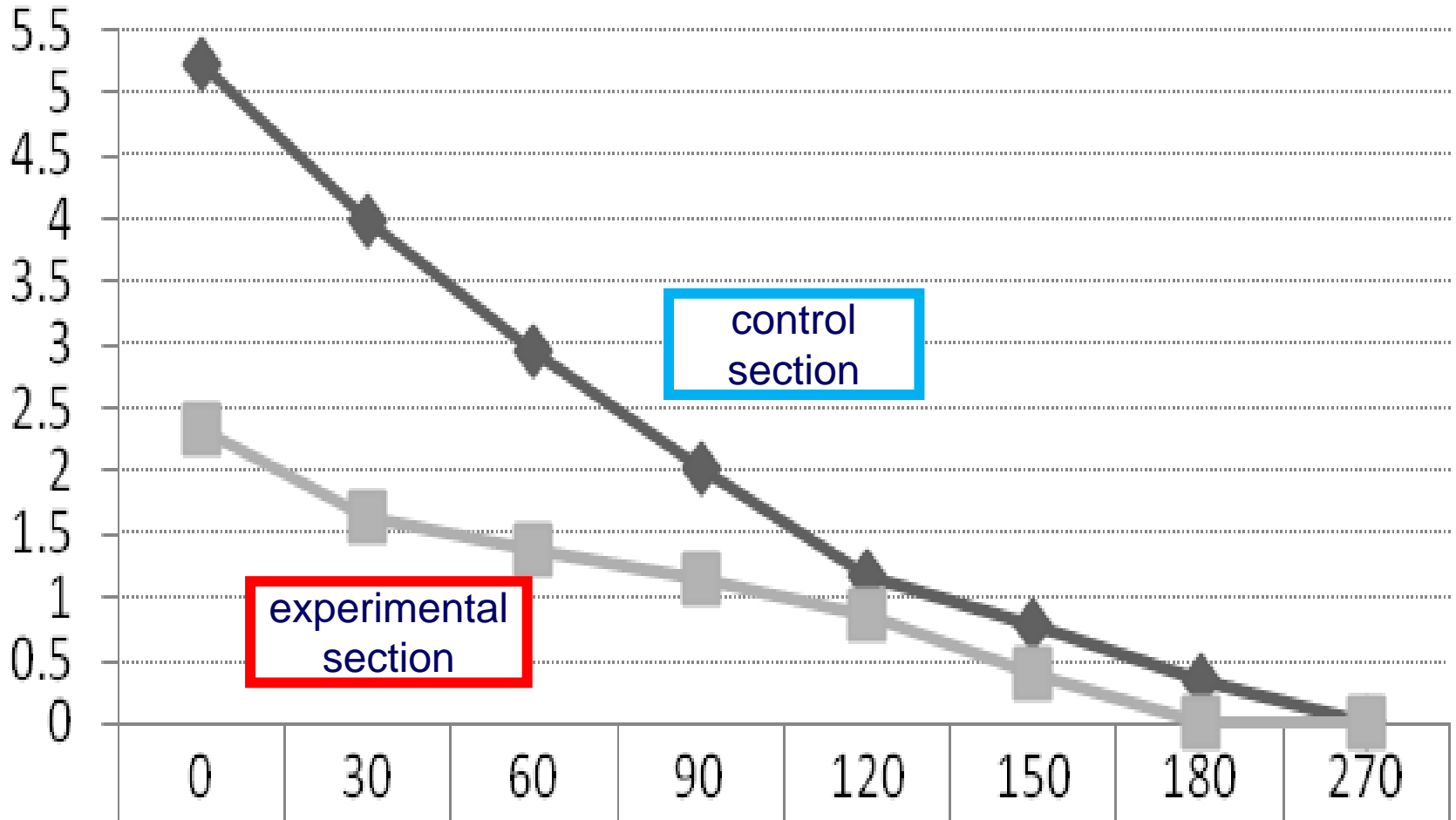
Control
Section

The permeability in the experimental section with the conservation module outperforms obviously the one in the control section with no conservation module.

This experiment clearly demonstrates the good permeability provided by the Rainfall conservation module.

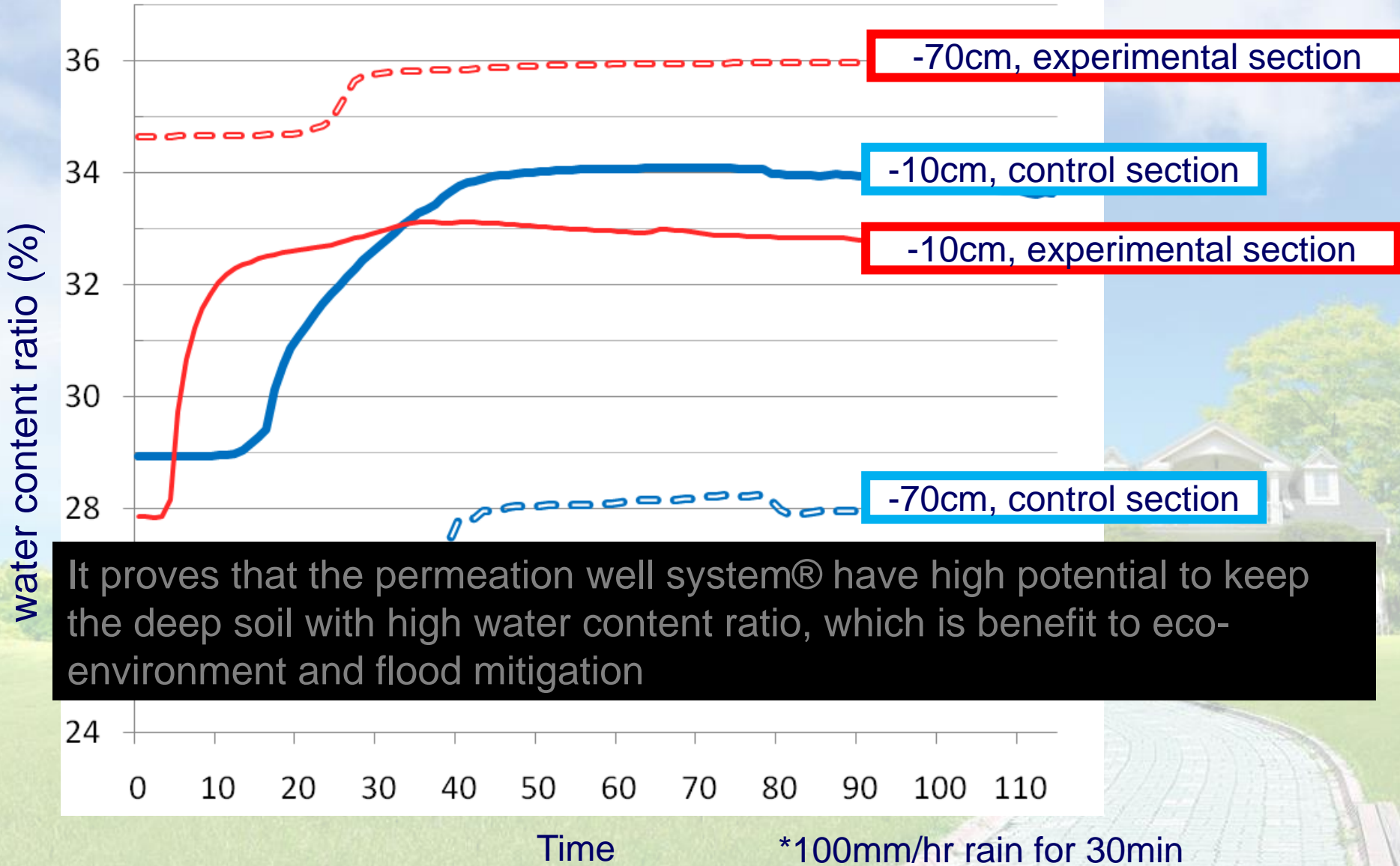
Comparison of runoff

Accumulated runoff water level (cm)





ECO-MESH
Water Solution



It proves that the permeation well system® have high potential to keep the deep soil with high water content ratio, which is benefit to eco-environment and flood mitigation

Experiment of Water permeability rate

The experiment tested the flood capacity of water chambers and subsoil drainage pipes. Experimental results show that water chambers did not impede the drainage capacity. The permeability rate of water chambers is better than subsoil drainage pipes.



Experiment of RCM clog-resistant observing

Monitored RCM clog resistance
& permeability over 36 months

Experimental results show that there is no difference in the drainage capacity. There is no blocking phenomenon.



Conclusion

Low Impact Development

Stormwater Management

Water Retention

Creates ecological balance

RCM - Economical & Simple Water Solution

RCM - Lower costs and create green earth environment



ECO MESH
Water Solution



APEC SME
- Green
Date : April 19-20, 2011, S



APEC Recommendation

Environmental Protection Green Products

ECO Mesh Pipe

APEC SME Green Innovation Conference
- Green SMEs : Champions of APEC's New Growth
Date : April 19-20, 2011, Seoul, Korea

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