

## **Green Roofs for Stormwater Management.**

***“A Modern Australian Concept – and why the World is embracing it now.”***

(Abstract for Hydropolis Conference-Perth 10/2006)

### **The Evolution of Water Management on Earth:**

#### **We have to protect what is left of nature.....**

The explosive growth of megacities has brought with it huge environmental and social problems. We have to protect what is left of nature for the long term survival of mankind on earth.....

#### **New form of city living only viable option for developing nations.....**

However, in order to meet the demand for improving the quality of life for the world's developing nations, a new form of city living is the only viable option available for a sustainable future.

#### **Impervious roofs and roads result in massive stormwater pollution.....**

As a city develops, buildings will cover between 40% and 80% of great expanses of land. As a consequence, permeable land and vegetation is replaced by impervious roofing material, resulting in massive polluted stormwater run-off, floods, as well as thermal contamination. Our roads cover up to 20% of great expanses of land, and our current stormwater system was designed over 2000 years ago by the Romans.

***“The relentless replacement of natural, pervious surfaces with impervious roofs and roads has to be contained and halted.....and then reversed in order to revert back to a natural pervious environment”.***

#### **Reverse effect of impervious surfaces by sensible water management....**

The way we manage our water on this planet is critical to how we can reverse the effect of existing impervious surfaces - which are currently devastating our waterways, oceans and depleting the ozone layer.

### **The Atlantis Approach – Enlightened Water Management:**

#### **Sustainability of pure water and air must be ensured .....**

Looking towards nature has given Atlantis solutions to these problems that affect us all. The elements of water and air are needed in all aspects of life and their sustainability must be ensured for future generations. Filtered rainwater is the purest and sweetest form of water on earth.

#### **Integrate urban development with nature.....**

The new Atlantis concept is to integrate urban development with nature, creating ecological sustainable cities and communities. To this end, **Green Roofs will account for up to 80% of man-made impervious surfaces and play a major role in stormwater mitigation.** The existing urban landscape and environment can be transformed into sustainable stormwater reservoirs, with Green Roofs retaining stormwater in the soil, with the excess stored underground for on-site storage, use and recycling.

(2)

**Green roofs could play a major role in climate change.....**

Evaporating water vapour from Green Roofs will cool our cities from the current “Heat Island Effect” and could play a major role in climate change – leading to drought relief in many instances. Building insulation requirements would be reduced significantly in summer with resulting lower demand for air conditioning, and developers should command a premium for Green Roof Buildings.

**Atlantis shows world leadership in green roofs.....**

Atlantis has been educating the world for 25 years, and we have observed that the USA has only embraced the Green Roof Concept about 2 years ago. European nations and countries like Singapore have been covering their impermeable roof surfaces with Green Roofs by law for well over 10 years.

**Sustainable green cities function like natural ecosystems.....**

By combining air, water, flora and land to function in harmony with urban development, water and air can be filtered, cleaned and purified. This results in sustainable Green cities, which function like natural ecosystems.

**“Zero discharge and therefore zero contamination”.....**

Atlantis has created environmental solutions to the ever increasing problems associated with contaminated water flow – based on resolving the problem “at source”, called **Point Source Solution**. Atlantis has a strategic objective - “Zero discharge and therefore zero contamination”.

**Re-training and education to change a mind-set.....**

One of the major tasks facing mankind is to enlighten professionals who have been trained to use the old “Roman Drainage System”. A re-training and education program will be required to change a mind-set which is used to designing contaminating waterways. This will rely on a large knowledge base to effectively design sustainable systems for buildings and roads.

©Copyright Atlantis Water Management

Paper prepared by:  
Humberto Urriola