

Patrick Lucey – A Completely Different Design Approach

India and China are proposing to build 200 new cities over the next 15-20 years, each the size of Vancouver. What will those cities look like? At the moment, new cities mostly look and function like existing cities – a very daunting picture. To understand why, look back 2,000 years.

The Romans figured out how to do three things extremely well: build good roads, bring water over enormous distances and get waste out of cities. But they couldn't build up because they didn't have electric pumps or steel-reinforced concrete. Their curse was sprawl; it drove them insane and made their cities inefficient.

In comparison, consider the fundamental patterns that nature has

used repeatedly for 4.5 billion years. First, all life forms are based on water. Second, nature doesn't have an open-ended system – she has no “wastes.”

In nature, when rainwater falls from the sky, much of it evaporates directly back from the surface of plants, or is taken up by their roots and transpired. If you track a single molecule of water, it doesn't go from the sky, to the ground, into the river and back to the ocean. It's recycled many, many times by plants and animals first.

However, for 2,000 years we've followed the Romans' lead. We have a water supply – often pirated from outside our own watershed – which we pipe into the city. We

use it once and then discharge it, usually harming the environment that receives it. We bring resources in and we discharge waste out: sewage, wet organic waste, garbage. We use everything once in an open-ended transport system.

To fix this, we're focusing on the wrong things. Low-flow toilets, water conservation – this is still the path of consumption and waste. They are mitigation, when what we need is regeneration – a completely different design approach for the 21st century.

At SEFC, we've begun to close the loop. There's a dramatic reduction in the amount of water needed from outside the system, and water is back on the landscape where it belongs. The SEFC development

represents a fundamental shift in design – a bit like looking into a crystal ball. It says, “This is what is possible.”

We have to bow to the people at the City of Vancouver who had the courage to step outside their regulations and codes, to say, “This needs to be done and we will be the first to do it.” Now, they face a real opportunity – four blocks to the east, where 500 acres of old rail yards lie. There, they could build a completely self-contained city within one giant eco-block – and show the world what the smart, clean, green cities of the 21st century can be.

Patrick Lucey
Aqua-Tex

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As a society, we have classified water to try and understand and manage it. This has created a problem, however, because there is no such thing as stormwater, drinking water, rainwater or wastewater. There is only water. By classifying types of water and believing that we understand it, we have oversimplified the complex set of interactions and pathways that nature uses to clean, store and renew the resource.

We have also created rules around how each type of water can be used. This has led to a disintegration and fragmentation of ecosystems and their services. For example, we use the terms surface water (e.g. lakes and streams) and groundwater. Yet where does surface water come from in the summer months? The ground.

Where does groundwater come from? Not the hot centre of the earth; it comes from the sky. Many people never mentally connect the two so we pave over the soil and inhibit groundwater recharge, and then wonder why our streams dry up.

Value is derived from complexity, yet we seek to simplify ecosystems all the time. Thus we devalue them and the rich services they provide. This can lead to some very poor (and potentially dangerous) decisions.

Cori Barraclough
Aqua-Tex

CELEBRATE THE WATER The management of stormwater within SEFC has been one of the main guiding principles informing the design of the public and private open space, leading to strategies of retention, reuse and replenishment. Rainwater will be treated as a valuable resource. SEFC Official Development Plan