

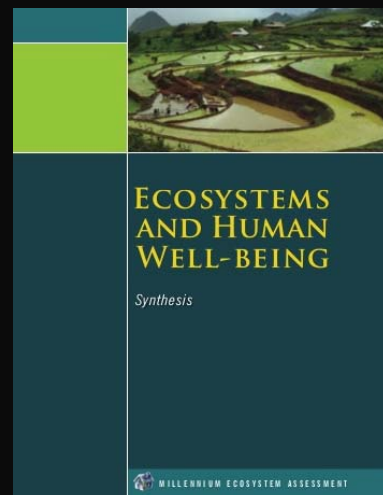
Towards the Water Sensitive City

Gary Grant

24th June 2014

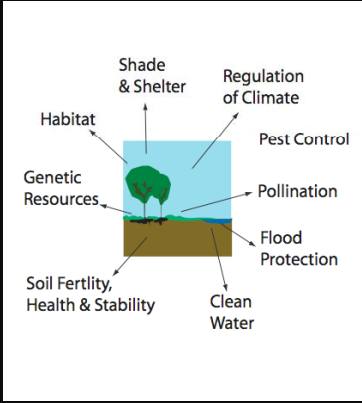
Convention on Biological Diversity introduced the ecosystem approach in 1992.

A holistic approach to land management. Working with nature to maintain healthy ecosystems that provide **ecosystem services**. Respect environmental limits. Protect and **restore**.



UN Millennium Ecosystem Assessment 2005

Ecosystem Services

<p>1. Global climate regulation Maintaining atmospheric gases and sequestering greenhouse gases</p> <p>2. Local climate regulation Regulating local temperature and humidity</p> <p>3. Air and water cleansing</p> <p>4. Water supply and regulation Storing and providing water within watersheds and aquifers</p> <p>5. Erosion and sediment control Retaining soil & preventing damage from erosion and siltation</p> <p>6. Hazard mitigation Reducing vulnerability to damage from flooding, wildfire, and drought</p> <p>7. Pollination Providing pollinator species for reproduction of crops & other</p>	<p>plants</p> <p>8. Habitat Providing biodiversity</p> <p>9. Waste decomposition and treatment</p> <p>10. Human health and well-being benefits Enhancing physical, mental, and social wellbeing</p> <p>11. Food and renewable non-food products Producing food, fuel, energy, medicine.</p> <p>12. Cultural benefits Enhancing cultural, educational, aesthetic experiences</p>	
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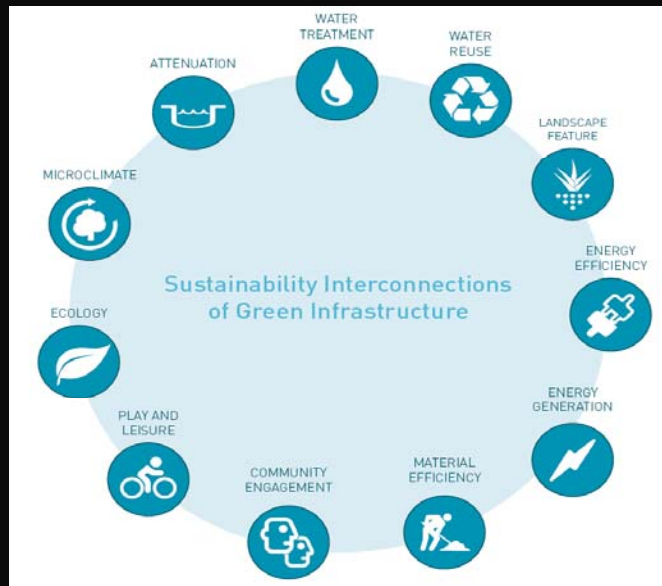
Source: ASLA

City Challenges

- Hot
- Dry
- Pollution (Air, Water, Light)
- Traffic
- Noise
- Disease
- Crime
- Governance
- Unemployment
- Housing
- Food

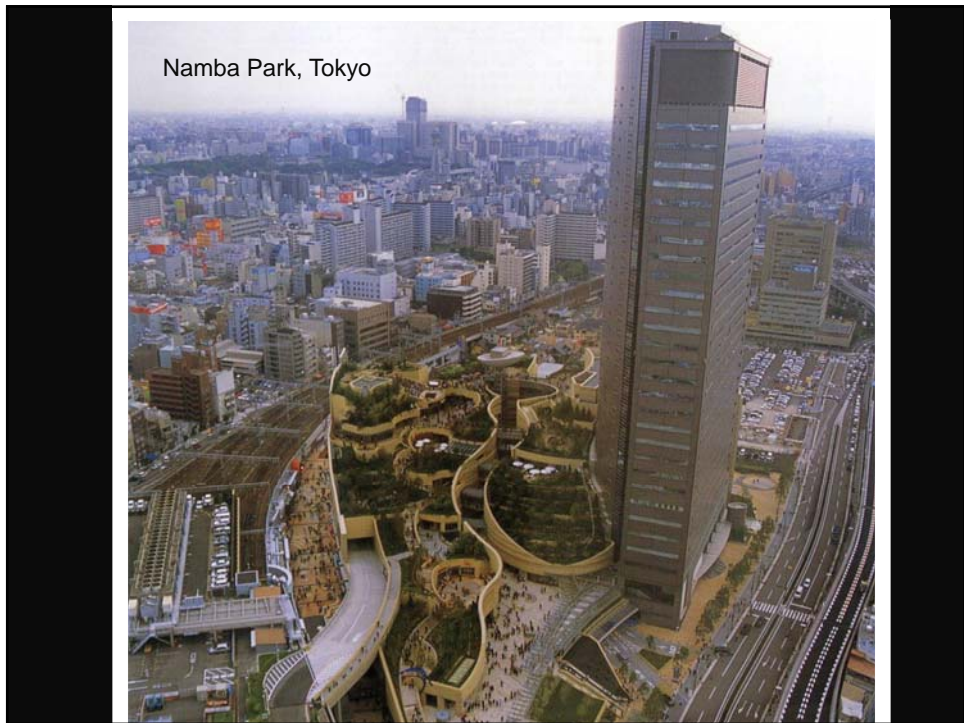
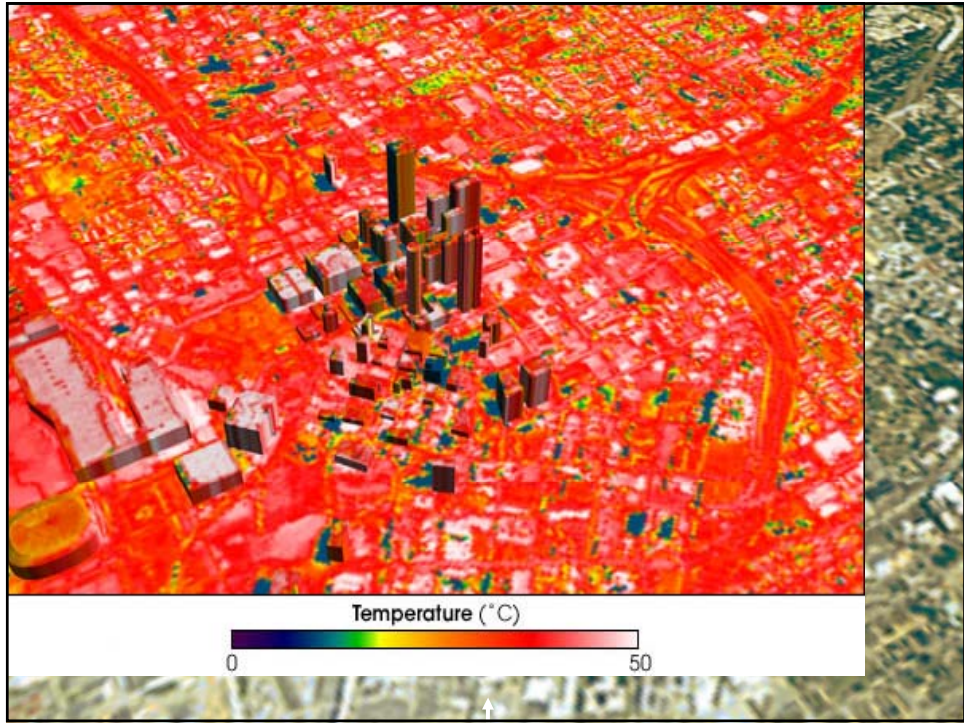



Multi-functional biodiverse green infrastructure networks



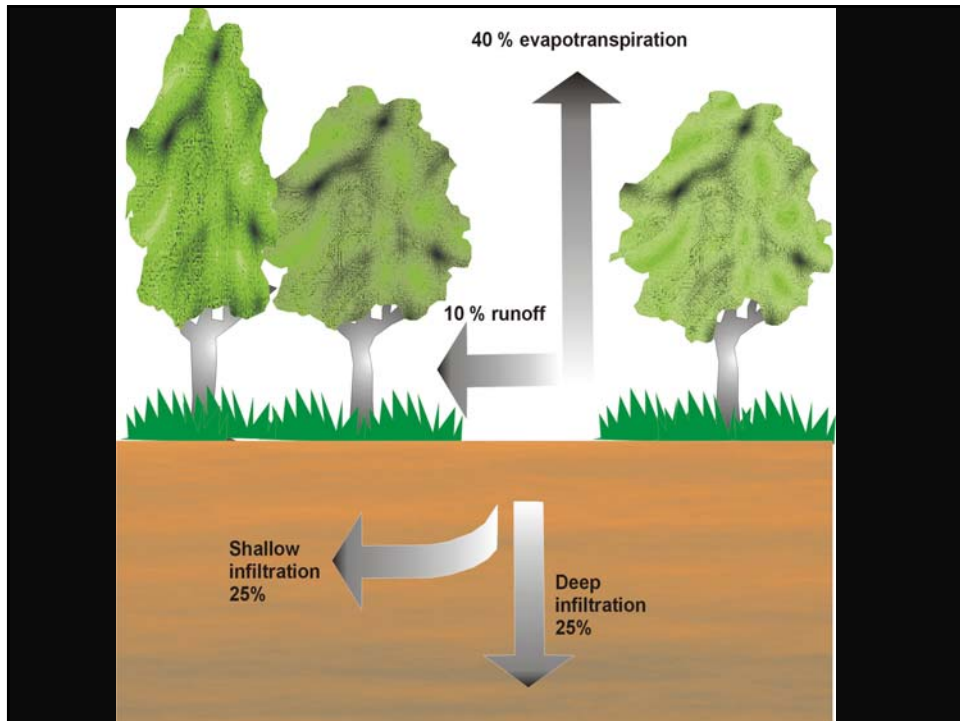
CLIMATE CHANGE

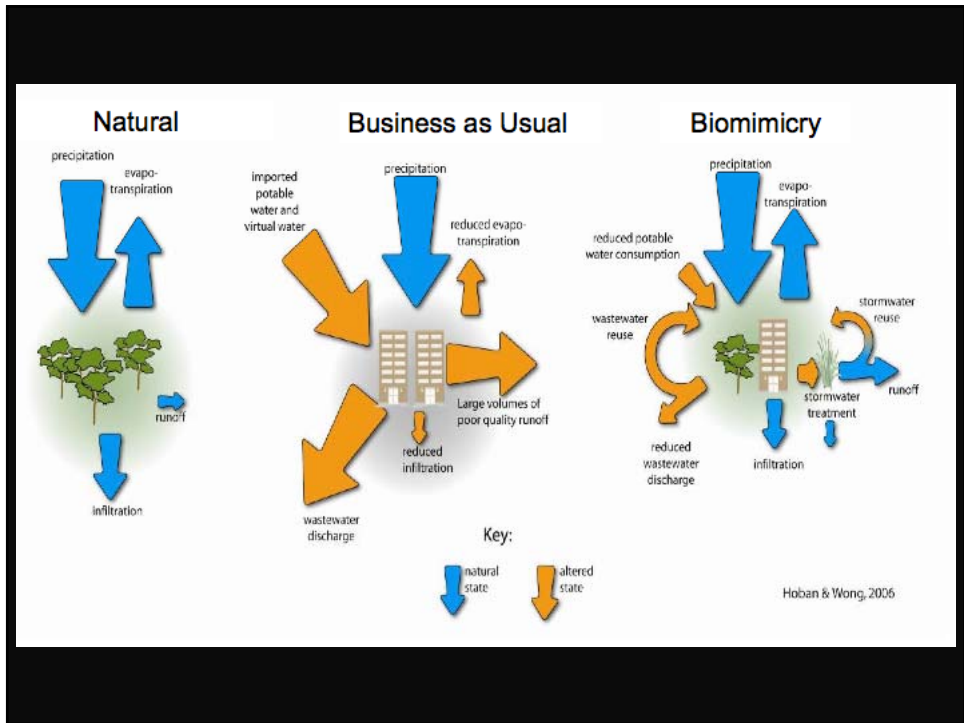
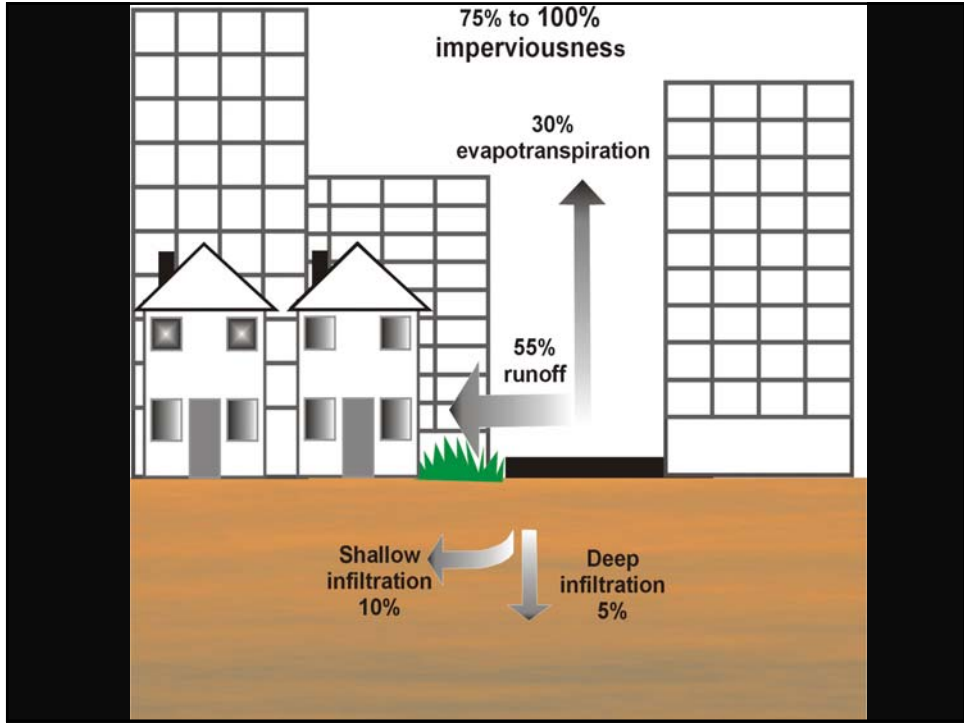
- Likely have more intense and focus rainfall
- Increased volumes in short space of time likely to burden urban drainage systems
- Leading to increase in urban flash floods

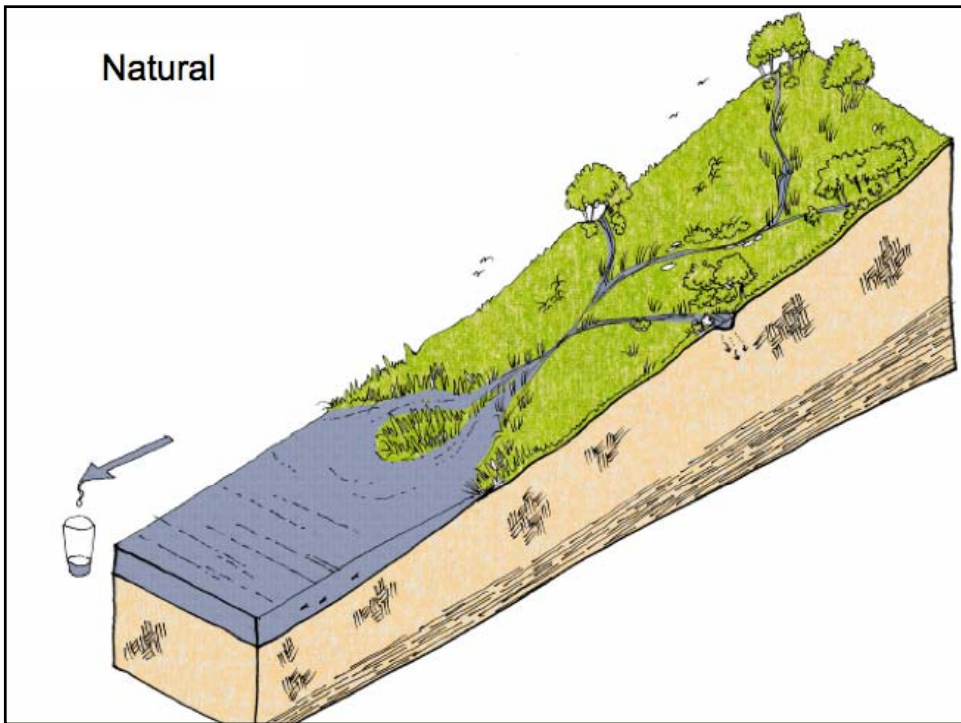
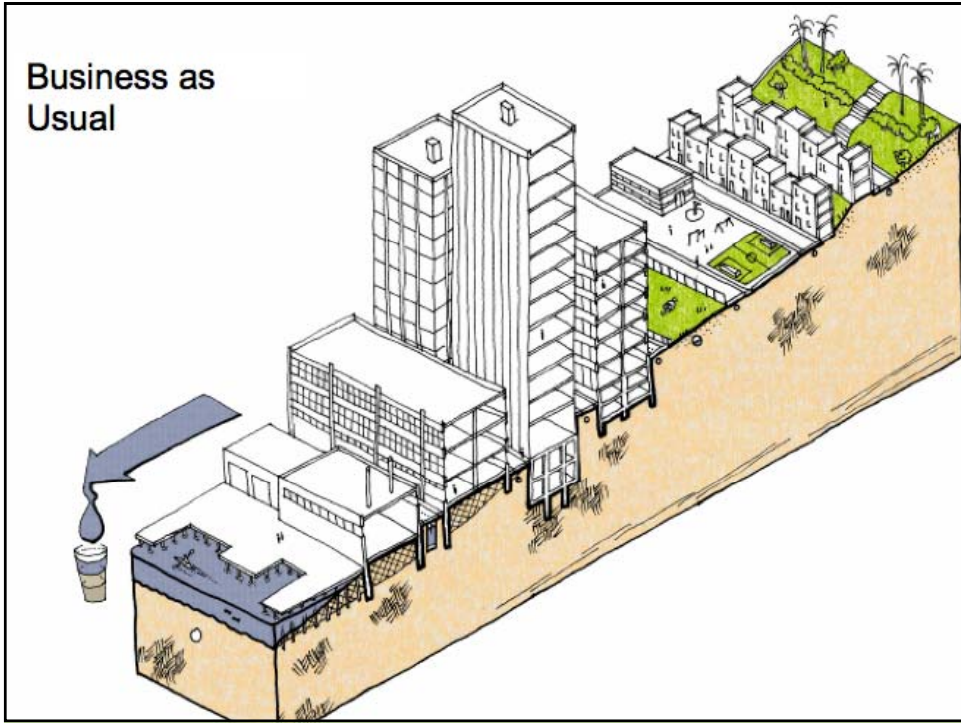


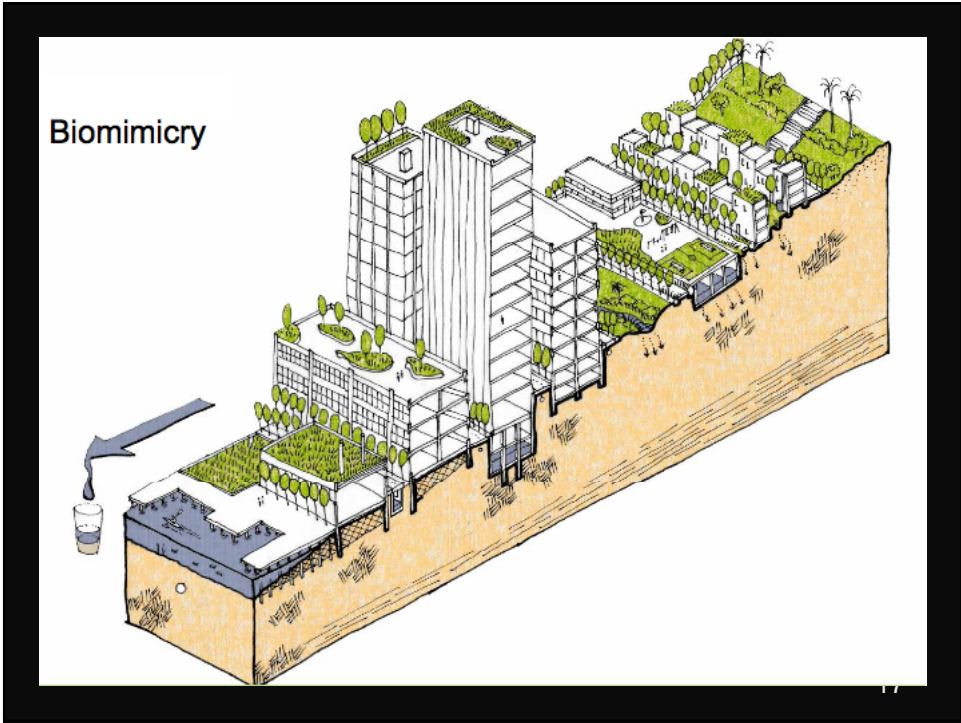


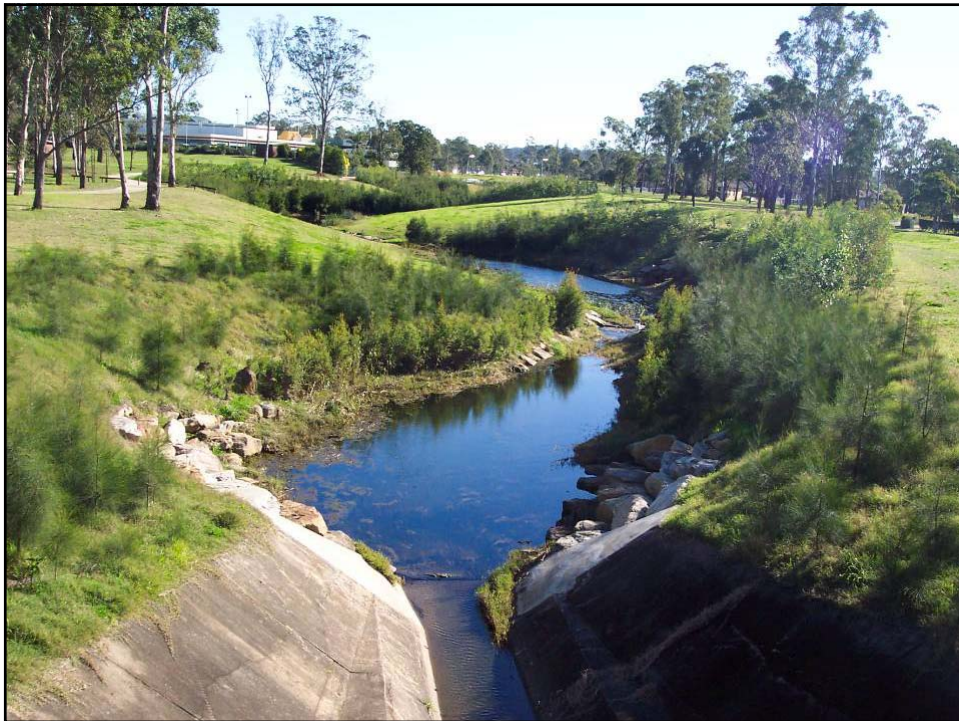
Water Sensitive Cities (Water Sensitive Urban Design)



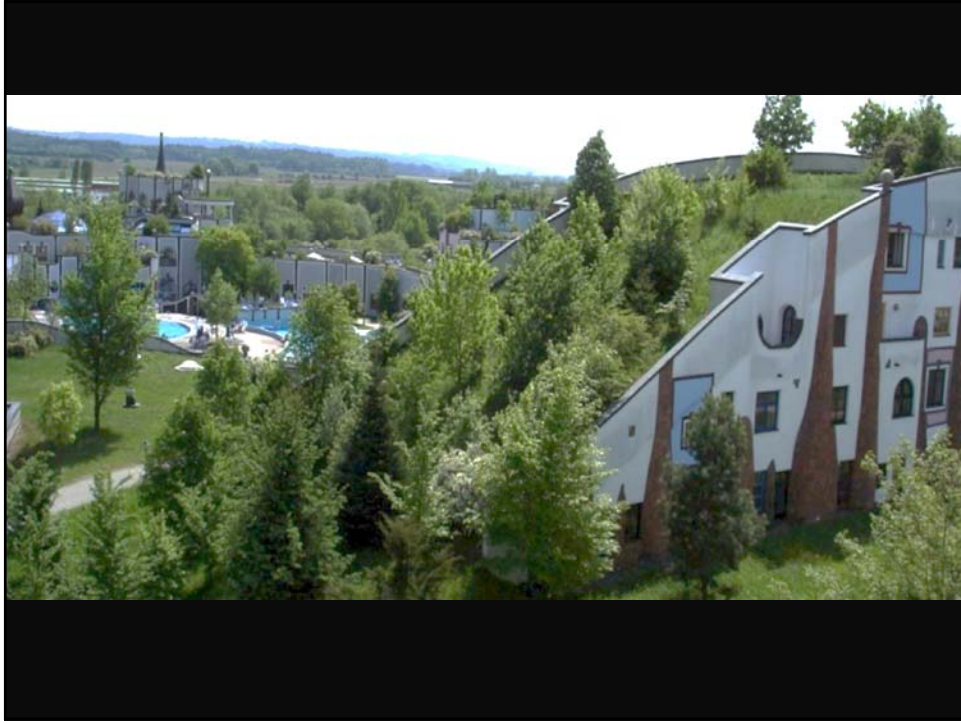








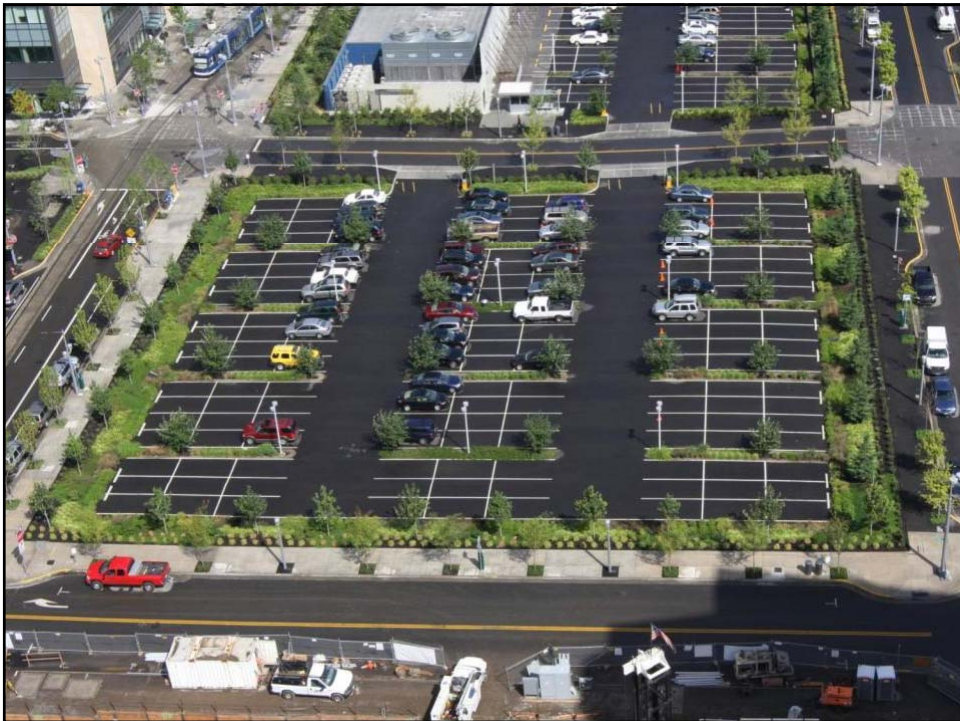




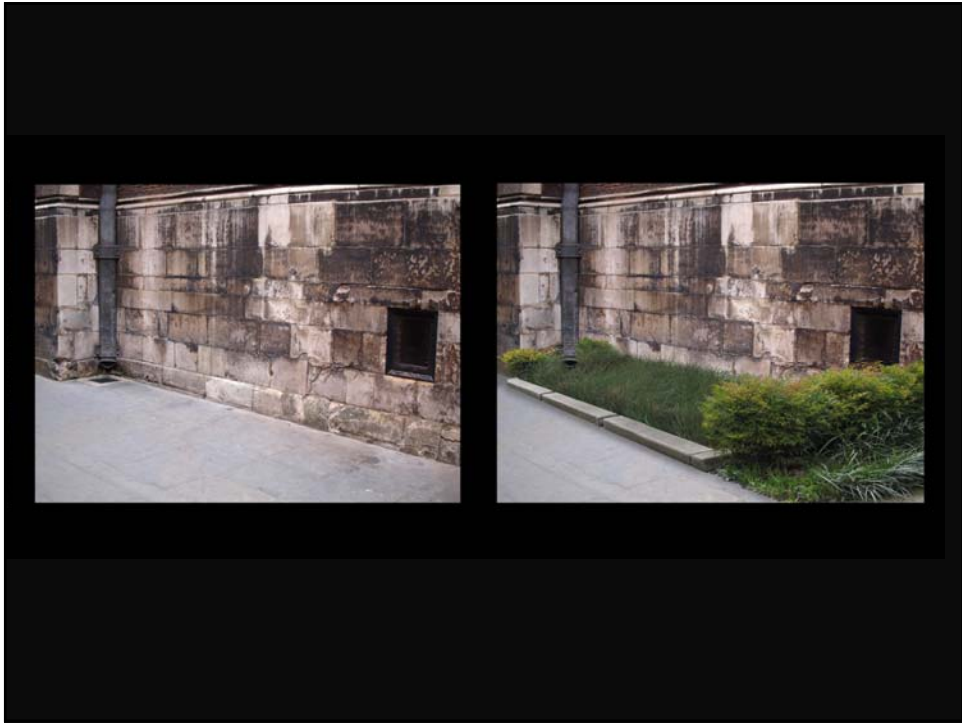
Rain Gardens

Term used in a broad sense to mean any planted feature designed to receive surface run-off















Vertical Rain Garden,
social housing near Tower Bridge

Thank you

www.greenroofconsultancy.com