Journal of Ecotechnology

Volume 4, Number 2

Content

semi-annual December, 2008

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Storm Water Management strategies in urban and rural areas regarding water flow and quality Harald Sommer, Heiko Sieker, Zhengyue Jin

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2008 International Low Impact Development Conference

LID for urban ecosystem and habitat protection

<u>Date:</u> November 16-19, 2008 <u>Location:</u> Westin Seattle in Seattle Washington Sponsored by the Environmental & Water Resources Institute of ASCE

One of the jewels of the Pacific Northwest, Seattle's waterside location and vibrant culture make it an ideal conference destination. A number of national and regional **LID** Conferences have been held in the United States, including University of Maryland, College Park, and North Carolina State University in Wilmington, respectively 2004 and 2007.

The 2008 International LID Conference will highlight new and continuing work including research, developments, and community adoption of LID throughout the United States and other countries. In there have some objectives want to spread LID such as in the below.

- To continue to promote the use of LID as an effective alternative for traditional stormwater management, as well as to examine successful watershed management practices related to stream restoration;
- To inform practitioners throughout the U.S. and other countries on how to anticipate and address impediments for implementation of these techniques to accelerate change in the practice of stormwater management, including an information exchange to refine design processes, review procedures and construction standards related to LID technologies;
- To improve our collective understanding of how amended soil and vegetation helps manage stormwater, intercept precipitation, expand urban greenspace, and improve urban livability.

Reference:

1. http://content.asce.org/conferences/lid08/index.html

Stormwater Management at EPA Headquarters

LID practices help retain as much stormwater as possible on the land.

L ID is development that results in low impacts on natural resources. This is done by using planning and designs that preserve green space and manage stormwater to minimize increases in flow and pollutants. LID techniques include conservation of forests and sensitive waters, water reuse, and stormwater controls that detain and retain runoff.

There are many practices that have been used to adhere to these principles such as bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements. By implementing LID principles and practices, water can be managed in a way that reduces the impact of built areas and promotes the natural movement of water within an ecosystem or watershed. Applied on a broad scale, LID can maintain or restore a watershed's hydrologic and ecological functions. LID has been characterized as a sustainable stormwater practice by the Water Environment Research Foundation and others.

Practices at EPA Headquarters

EPA promotes the use of LID techniques in several of its water pollution prevention programs. While LID techniques reduce the amount of pollution entering the nation's waterways, they are still not widely used. To encourage more government agencies and developers to use LID, EPA is demonstrating several LID techniques at the Agency's Headquarters in Washington, DC. The demonstration project illustrates what LID practices can accomplish and shows their visual appeal.

The project involves LID and other stormwater management practices at three sites: Ariel Rios South Courtyard, Constitution Avenue, and West Building Parking Garage.

Project Partners

This demonstration project is a collaborative effort involving various partners. EPA's Office of Water provided conceptual designs for the LID practices being demonstrated. The Facilities Management Division of EPA's Office of Administration and Resources Management oversaw their construction. The General Services Administration (GSA) designed and maintains the land-



scape, including trees and plants. Others parties joined as this project evolved, including the U.S. Commission of Fine Arts, the National Capital Planning Commission, the DC Water and Sewer Authority, and a variety of contractors.





Figure. 1Porous concrete walkway and rainFigure. 2Bioretention cell in front of EPAgarden at Ariel Rios South Court-
yard.HeadquartersWestBuilding on
Constitution Avenue.



Figure. 3 Drawing of Ariel Rios South Courtyard demonstration site highlighting various LID and other demonstration practices.

Reference:

http://www.epa.gov/owow/nps/lid/ http://www.epa.gov/owow/nps/lid/stormwater_hq

O'Hare aims at environmentally friendly skies

With its acres of concrete and hundreds of jet-fuel gobbling airplanes passing through every day, O'Hare International Airport isn't a tree-hugger's paradise. But Chicago officials are working to change that image, one green roof at a time.

This November marks the opening of the first new runway at O'Hare since 1971, located at the facility's north end. Along with the runway comes a new air traffic control tower that has a garden atop the first floor of its base building.

The rooftop has been planted with sedum, a low-maintenance ground cover. The garden will insulate the building - reducing cooling and heating demands -- retain and filter and prolong the roof's lifetime by about 20 years. It also mitigates the "heat island" effect created by one of the world's busiest airports.

O'Hare is in the midst of a major rebuilding program, aimed at creating six parallel runways running east-west. As part of the new construction, workers have created 33,000 square feet of rooftop gardens. These include plantings atop a guard post, the air traffic control base building, a transformer building and a facility holding lighting control systems.

Before proceeding with the green roof at the air traffic control building - the first of its kind at a Federal Aviation Administration facility - airport planners had to convince agency officials it wouldn't leak and damage essential equipment.

"They had to prove to us that it wouldn't harm operations in the future," FAA spokesman Tony Molinaro said. The garden is lined with a leak-proof membrane.

In spring, Chicago will start construction of another east-west runway at the airport's south end, which has been embroiled in controversy. At the runway's center is St. Johannes Cemetery. Both its owners and Bensenville are fighting airport expansion, which would involve demolishing about 600 properties in the village.

Despite legal action, Andolino said the city will go ahead and build the ends of the runway, located on land Chicago owns.

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The runway and air traffic control tower will begin operating on Nov. 20. President Bush and Transportation Secretary Mary Peters are expected to be among the first people landing there, officials said.



Figure. 1 The new north air traffic control Figure. 2 tower's base building at O'Hare International Airport has a 10,000-square-foot green roof.



igure. 2 Rosemarie Andolino, executive director of the O'Hare Modernization Program, center, gives a tour of the 10,000-square-foot vegetated green roof atop the new north air traffic control tower's base building.

Reference:

http://www.dailyherald.com/story/?id=244430

Asian Wetland Convention and

Workshop

First SWS (Society of Wetland Scientists) Asia Chapter's

<u>Date:</u> Oct. 23- 26, 2008. <u>Venue:</u> International Convention Center of NTUH



Asian Wetlands, Global Position, Common crisis, Immediate Action

At the present time, Taiwan has designated 75 wetlands as wetlands of national importance. These wetlands not only are important habitat environment for wild animals and plants, but also are excellent ecological tour attractions for international visitors. In recent years, the Taiwan government has made great efforts in implementing wetland conservation strategies.

The first Asian Wetland Convention and Workshop was held at the National Taiwan University Hospital (NTUH) International Convention Center in Taipei, Taiwan during October 23-26, 2008.



The Conference invited noted wetland conservation scholars, experts, and senior officials from United Nations. and the Government of Taiwan. Over 600 participants from all over the world participated at the Conference. The meeting provided a good opportunity for the World to see the progress Taiwan has made in wetland conservation and protection.

Reference:

http://www.swsasia.org/taiwan.html