ELA 2013 CONFERENCE

WATER FLOWS & WOES: DESIGN AESTHETICS THAT INTEGRATE WATER MANAGEMENT

Thursday Feb. 28, 2013

Presenters: Lisa Cowan, Studioverde, and Heather Heimarck, The Landscape Institute

Terminology

Bioretention: On-lot retention of stormwater through the use of vegetated depressions engineered to collect, store, and infiltrate runoff. Also known as Rain Bio-Filter .

Bioswale: Synonymous with Bioretention, this term is typically used for general audience discussions to differentiate from gardenesque images associated with the term "Rain Garden".

Core aeration- a technique commonly employed in golf courses to increase wicking into the upper soil horizon in high compaction areas.

Flow through planter – a planter that utilizes passive irrigation from storm water events.

Green Infrastructure- a shift from piping storm water underground to encouraging evapotranspiration and percolation as a mode for storm water management.

Low Impact Development (LID): The integration of site ecological and environmental goals and requirements into all phases of urban planning and design from the individual residential lot level to the entire watershed.

Noria- Middle Eastern self propelling water wheel

Qanat- Middle Eastern horizontal and vertical well system diverting ground water to desired locations.

Rain Garden: Synonymous with bioretention, this term is typically used for general audience discussions.

Stormwater bump out – a porous/garden bump out to absorb storm water from streets.

Stormwater tree trench - a streetscape techniques encouraging continuous tree trenches to increase soil volume with accompanying permeable paving to absorb storm water.

Sustainable Sites Initiative (SITES™) - The Sustainable Sites Initiative™ (SITES™) is an interdisciplinary effort by the American Society of Landscape Architects, the Lady Bird Johnson Wildflower Center at The University of Texas at Austin and the United States Botanic Garden to create voluntary national guidelines and performance benchmarks for sustainable land design, construction and maintenance practices.

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Abbreviated list of projects shown:

Bioretention systems: LL Bean Flagship Store, Freeport, Maine and Congregation Bet Ha'am, South Portland, Maine – by Kylie Mason, RLA, Sebago Technics, South Portland, Maine.

Chand Baori step-well, Rajasthan, India.

Mill Creek Park, Kent, Washington: by Herbert Bayer 1984 (2010 increased capacity from 100 year storm to 10,000 year storm) http://kentwa.gov/arts/earthworks/

Overdiepse Polder, Holland an agricultural landscape designed for flooding.

Westbrook Wetland Creation site, Maine Turnpike Authority. Lead Landscape Architect: Lisa Cowan, PLA and Lead Wetland Scientist: David Cowan, for Duke Engineering, Portland, Maine.

Resources for Best Practices:

Sustainable Sites Initiative: (SITES™): (http://www.sustainablesites.org)

City of Milwaukee- green infrastructure mandate

www.**milwaukee**.gov/sustainability

http://www.werf.org/liveablecommunities/studies_mil_wi.htm

City of Philadelphia: http://www.phillywatersheds.org/what_were_doing/green_infrastructure

Atelier Dreiseitl: www.dreiseitl.de A wonderfully creative and inspiring Swiss/German firm working on the forefront of stormwater projects internationally.

University of New Hampshire Stormwater Center: http://www.unh.edu/unhsc - **The UNH Stormwater Center** is a dynamic research, testing and educational facility which serves as a technical resource for water managers, planners, and design engineers in New England and throughout the United States.