

International Low Impact Development Technology Conference 2020

Setting the Vision for the Next 20 Years

Proceedings of the International Low Impact
Development Conference 2020

Bethesda, Maryland, USA
20 – 24 July 2020

Editor:

Neil Weinstein

ISBN: 978-1-7138-1506-8

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2020) by American Society of Civil Engineers
All rights reserved.

Printed with permission by Curran Associates, Inc. (2020)

For permission requests, please contact American Society of Civil Engineers
at the address below.

American Society of Civil Engineers
1801 Alexander Bell Drive
Reston, VA 20191
USA

Phone: (800) 548-2723
Fax: (703) 295-6333

www.asce.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Contents

Water Sensitive Design as an Ecologically Based Urban Design Approach to Facilitate Stormwater Resilience for Industrial Areas in Auckland	1
Yuliang Wang and Marjorie van Roon	
A Study on the Detention Tank Substitution Model for LID Facilities	15
Li Jiang Yun, Lin Jin Chang, and Li Yao	
Study on Flood Control in Multi-LID Model Based on SWMM.....	30
Bo Sun, Shuibo Xie, Zhiyuan Wang, Haoyi Wu, and Hui Liu	
Evaluation Criteria of LID Performance Based on Detention Tank Model	44
Jiangyun Li, Yao Li, and Yingling Jiang	
RainScapes: Incentives Matter and Other Lessons Learned from 10 Years of Voluntary Retrofits on Private Property.....	59
Ann English and Dan Somers	
NYCDEP Green Infrastructure.....	68
Yara Elborolosy and Joseph Cataldo	
Regulation Capacity Evaluation of the Drainage System with Low Impact Development at a Watershed Scale in China	74
Moyuan Yang, Jingbo Han, and Xing Zhou	
Early Treatment of Pervious Concrete with Carbonate Laden Waters.....	85
Nara Almeida and Liv Haselbach	
Underground Aggregate Stormwater Infiltration Bed Case Study	96
Liv Haselbach, Nara Almeida, Thinesh Selvaratnam, and Dongseong Han	
Low Impact Development Testbed to Study the Performance of Enhanced Bioretention Systems	107
Hanieh Soleimanifar, Abtin Shahrokh Hamedani, Marcio Giacomoni, and Heather Shipley	
Stressors, Ecosystem Services, and Restoration Strategies for a Central New Mexico Arroyo.....	115
Gerhard Schoener and Mark C. Stone	
Using a Complex TMDL Modeling System to Evaluate Water Quality Improvement in Receiving Waters Due to Sponge City Construction of Zhenjiang City, China.....	130
Jan-Tai Kuo, Jian Hu, Zhiguo Wu, Chunping Zhang, Yan Wang, Chung-Te Fu, Chun-Yao Hou, and Yu Wang	

Establishment of Long-Term O&M Program and Sustainable Funding Stream for China “Sponge City” Initiative	141
Yuming (Jim) Su, Shengyi Qin, Yang Zhao, and Zhangfei Li	
Analyzing the Performance of a Rain Garden over 15 Years: How Predictable Is the Rain Garden’s Response?	151
Achira Amur, Bridget Wadzuk, and Robert Traver	
Ten Years of Campus LID Research and Practice in Tsinghua University	163
Hailong Liu, Huaiyu Zhou, and Yi-Chang Chang	
AI Application on LID Stormwater Management and Urban Planning in Guam, USA, and Southern China, PRC.....	188
Jeffrey Y. Cheng, Chun Xiang, and Yichao Ma	
Design and Evaluation of Rainwater Harvesting System in an Urban Residential Complex in Johannesburg.....	201
Nokuthula R. Nyawo and Tiku T. Tanyimboh	
Evaluating Pollutant Concentrations in Urban Streams	209
Manish Venugopal and Nicole Barclay	