

## Day One - Track One

Wednesday, March 21<sup>st</sup>, 2018

11:30 a.m. – 12:00 p.m.

## Implementing Low Impact Development in South Korea

**Presenter:** Steven Trinkaus, Trinkaus Engineering, LLC.

### Biography



Steven Trinkaus is a licensed professional engineer in Connecticut and Maryland and has over 35 years experience in the land development field. He is an internationally recognized expert in the field of Low Impact Development (LID) and has been an invited presenter and consultant in Taiwan, China and South Korea multiple times since 2011. He was an invited presenter at the University of St. Andrews in Scotland on Sustainable Stormwater Management in October 2017. He has written multiple LID Design Manuals for five municipalities in Connecticut as well as being the principal author of a LID National Guidance document for EWRI. He has designed all types of LID treatment systems including Bioretention, Dry and Wet Swales, Permeable Asphalt and open cell paver systems. He has made many presentations on LID and water quality topics at many local, regional and international conferences. He has also taught day long workshops on stormwater and LID. He graduated from the University of New Hampshire with a Bachelor of Science in Forest Management in 1980.

## Abstract

South Korea has experienced tremendous growth and expansion of their cities since the later 1960s. With a booming economy, development progressed at a rapid rate, especially near existing cities. However, there was very little consideration paid to addressing stormwater management, except to convey the runoff to a river or ocean as fast as possible. This approach was responsible for many issues, primarily the lack of infiltration of rainfall to maintain shallow groundwater flow to receiving wetlands and rivers. This lack of infiltration along with the rainfall patterns in South Korea (they receive approximately 27" out of 41" from mid-June to mid-August) has led to large rivers drying up prior to or after the rainy season noted above. The rapid development also led to increased adverse water quality impacts on the receiving aquatic systems. Low Impact Development (LID) are being researched and implemented in South Korea to address these issues. This presentation will discuss several implementations of LID systems in various areas of South Korea, including Seoul, Suwon City, Daejeon, Asan and Gyeongju. The presentations will also discuss the hydrologic requirements developed by the South Korean Environmental Agency to further the implementation of LID. Lastly, the presentation will provide a tour and narrative of the Korean GI/LID Research Center recently constructed at the Yangsan campus of Pusan National University. The primary purpose of the center is to conduct research and monitoring on US LID systems and how the systems can be modified to function in South Korea.

## Learning Objectives

1. Learn how South Korea using LID to address water quality and runoff issues;
2. Learn about the research being conducted at the GI/LID center; and
3. Understand how LID systems are being modified to work in South Korea.