DesignLIFES 2020 Short Courses Program

BUILDING FORWARD: PRINCIPLES OF SUCCESSFUL LID CONSTRUCTION, CERTIFICATION, INSPECTION AND MAINTENANCE

June 23, 25, 26
9:00 – 10:30 am

Course Description:

Low Impact Development (LID), an innovative stormwater management approach that treats, infiltrates, filters, and retains runoff at the source, is quickly becoming the new norm in Ontario. This course will focus on three critical components of developing functioning LID practices: construction, inspection and maintenance.

LID Construction: Construction of LID practices involves techniques and specifications that differ from traditional stormwater management construction practices. Failing to follow proper LID construction processes can result in barren bioretention landscapes, clogged infiltration practices, uneven permeable pavements, and ultimately costly post-construction repairs. You will learn the principles of LID construction, potential errors, lessons learned and proper techniques.

Guidance on inspection and maintenance of LID practices: Integrating green stormwater infrastructure like low impact development (LID) best management practices (BMPs), into municipal asset management programs presents additional challenges to municipalities, but ways to overcome them do exist. You will learn about essential steps in program design, inspection and testing protocols, and the specific maintenance needs for bioretention and other LID practice types. Lessons learned from Ontario case studies will also be presented.

Instructors

Kyle Vander Linden, M.E.S, B.Sc. – CVC. Kyle Vander Linden is a Program Manager, Integrated Water Management, at Credit Valley Conservation (CVC). His work at CVC over the last 10 years has focus on the implementation of low impact development and pollution prevention (P2) projects, development of LID guidance and training, and most recently, helping address the economic / cost barriers to LID implementation through property aggregation, cost optimization analysis, and stacked offsets.

Dean Young, M.E.S., B.Sc. – STEP TRCA. For the past fifteen years Dean has worked for Toronto and Region Conservation. He is currently a Project Manager with the Sustainable Technologies Evaluation Program where his work focuses on evaluating the effectiveness of innovative water and soil management technologies in an Ontario context. He manages applied science research projects and develops knowledge transfer tools to overcome barriers to widespread implementation of proven technologies. His most recent work includes guidance on the design, inspection and maintenance of low impact development stormwater infrastructure and soil management best practices. Dean also participates on national standards development committees relating to the design and construction of stormwater infrastructure.

Moderator

Amanda Slaght, B.Sc. – CVC. Amanda is a Coordinator on the Integrated Water Management team at Credit Valley Conservation. Since 2010 Amanda has been a part of the Sustainable Technologies Evaluation Program which is a conservation authority-led initiative that fosters broader implementation of sustainable technologies that protect water resources and reduce our carbon footprint. As part of this team Amanda has been involved in environmental monitoring of Low Impact Development (LID), development of the LID Life Cycle Costing Tool, development of curriculum and online e-learning courses related to LID and erosion and sediment control, and coordination of LID training for professionals.

GREEN ROOF DESIGN AND CONSTRUCTION

July 3 and 17

9:00 – 10:30 am

Course Description:
Green roof design and construction: successes and failures

Learning Objectives:

1) Describe design parameters for vegetated roof assemblies.
2) Identify typical components and how they work within the larger system.
3) Recognize key performance criteria and how to design VR systems accordingly.
4) Avoid common pitfalls in green roof design.

Please check this article written by the instructor, Rick Buist.

Instructor

Rick Buist – **Bioroof**. Rick is the program manager for Tremco's vegetated roofing business throughout North America. He is an award-winning designer and horticulturist consulted regularly by design professionals to troubleshoot green roof failures and help design systems. Known as a serial entrepreneur, Rick has created numerous start-up horticultural businesses throughout his 30+ year career. For two decades, Rick has been involved in the design and/or installation of millions of square feet of green roof projects throughout North America. As an award-winning designer and horticulturist, he is consulted regularly by design professionals to troubleshoot green roof failures and help design systems to specialized roles. He is a pioneer in the establishment of native urban meadows on rooftops and is a key consultant to the University of Toronto's G.R.I.T Lab studying performance variables of green roof systems. Rick is a past director of the industry association, Green Roofs for Healthy Cites, past Chair of their Corporate Members Committee, and past Chair of their Technical Sub-Committee on Growth Media. Rick was involved in the development of the industry's Green Roof Professional Training Courses. Rick has developed curriculum and lectured on Environmental Horticulture at Sheridan College. He has presented courses and seminars at various Conferences and Lecture Series such as the B.E.S.T. lecture series at the Daniel's School of Architecture, the Australian Green Roof Conference and training courses throughout North America. A proponent of functional design and maximum performance in green roofing, Rick has worked tirelessly to ensure green roofs meet stringent quality protocols and deliver the benefits they are often cited to provide.

SOIL DESIGN, BIORETENTION/LID SOIL AND GREEN ROOF MIXES

July 24 and 31

9:00 – 10:30 am

Course Description:

- Where is material sourced from?
- How are materials prepared, delivered and installed in projects?
- How/what are the resources used to design a soil mix?
- What objectives/specs clients trying to achieve in their soil design
- What are the issues/misconceptions/mistakes in how soil designs are specified by clients?

Instructors

Nicole North – **Gro-Bark**. Nicole has spent her entire career, starting in the early 1990's, in the Horticultural sector. Her experience includes Landscape Architecture, Nursery/Garden Centre Management, Entrepreneur & Business Ownership and currently Sales Specialist – Growing Media at Walker. Nicole has an Honours Degree in Environmental Science (Horticulture & Natural Resource Management) from the University of Guelph.

Erin Agro – Gro-bark. Erin is a Professional Agrologist with over 10 years of experience in nutrient management, soil science, and applied research. She has a Bachelor of Science in Environmental Science and a Master of Science in Environmental Horticulture from the University of Guelph. Her previous work in various research environments has provided her with extensive experience in field study design, data interpretation and laboratory analysis of soil and water. In her current role as Growing Media Group Manager at Walker, Erin manages an interdisciplinary team of environmental, sales and technical professionals and serves as a key resource with respect to horticultural substrate analysis, applied research and the development of engineered soil substrates for low impact development (LID) projects and green roofs.