

# Conservation Partners Partenaires de conservation

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## **LOW IMPACT DEVELOPMENT (LID) EASTERN ONTARIO TRAINING CONFERENCE AGENDA**

November 7, 8 & 9, 2018  
8:30 am – 4:30 pm  
Nepean Sportsplex  
Ottawa, Ontario



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<b>Day 1 – November 7</b>	
<b>Introduction to LID</b>	
8:30 – 9:00 am	Arrival and registration
9:00 – 9:10 am	Introduction and housekeeping
9:10 – 9:30 am	Eastern Ontario context: Why LID <ul style="list-style-type: none"> <li>• Characterization of watershed(s) conditions and pressures</li> </ul> Municipal Perspective: City of Ottawa LID Projects
9:30 – 10:15am	Stormwater fundamentals: Introduction to Low Impact Development <ul style="list-style-type: none"> <li>• Types</li> <li>• Functionality</li> </ul>
<b>10:15-10:30 am</b>	<ul style="list-style-type: none"> <li>• <b>NETWORKING BREAK</b></li> </ul>
10:30 am – 12:00 pm	LID / Green infrastructure myth busting <ul style="list-style-type: none"> <li>• Dealing with site constraints</li> <li>• Tight soils</li> <li>• High bedrock/groundwater</li> <li>• Utilities</li> </ul> Performance / winter performance Questions and answers
<b>12:00 – 1:00 pm</b>	<ul style="list-style-type: none"> <li>• <b>LUNCH</b></li> </ul>
1:00 – 2:30 pm	LID application at the neighbourhood scale <ul style="list-style-type: none"> <li>• Residential development case studies:                             <ul style="list-style-type: none"> <li>• Vales of Glenway</li> <li>• Wychwood (Medium Density)</li> <li>• Meadows In The Glenn (Low Density)</li> </ul> </li> </ul> Mosaic (high density)
<b>2:30 – 2:45 pm</b>	<ul style="list-style-type: none"> <li>• <b>BREAK</b></li> </ul>
2:45 – 4:00 pm	Getting started: moving towards operational processes in getting LID into the ground <ul style="list-style-type: none"> <li>• Lessons learned in design, construction, inspection, operation and management</li> </ul> Overview of STEP tools available <ul style="list-style-type: none"> <li>• Wiki design guide</li> <li>• LID treatment train tool</li> </ul> LID life cycle costing tool
4:00 – 4:30 pm	Q&A / Adjournment

# Conservation Partners Partenaires de conservation



<b>Day 2 – November 8</b>	
<b>LID Design – Bioretention</b>	
<b><i>PARTICIPANTS MUST BRING CALCULATOR</i></b>	
8:30 – 9:00 AM	Registration and refreshments
9:00 – 9:05 AM	Introduction and housekeeping
9:05 – 9:15 AM	Recap of Day 1
9:15 – 9:30 AM	Bioretention basics and terminology
9:30 – 10:00 AM	Review of performance case studies
<b>10:00 – 10:20 AM</b>	<b>NETWORKING BREAK</b>
10:20 AM – 12:00 PM	Pre-design activities (integrated through presentation) <ul style="list-style-type: none"> <li>• Site evaluation and reconnaissance</li> <li>• Hydrogeological investigation</li> <li>• Screening the design options</li> <li>• Sizing for hydrologic and water quality objectives</li> <li>• Site planning and placement of bioretention areas</li> <li>• Site grading and drainage</li> </ul> Designing with maintenance in mind
<b>12:00 – 12:30 PM</b>	<b>LUNCH</b>
12:30 – 2:30 PM	Detailed design (integrated through presentation) <ul style="list-style-type: none"> <li>• Sizing the bioretention practice</li> <li>• Detailed design options for inlets / pretreatment               <ul style="list-style-type: none"> <li>• Detailed design options for outlets / flow control</li> </ul> </li> <li>• Planting design</li> <li>• Material specifications</li> <li>• Detailed design options for LID monitoring</li> </ul>
<b>2:30 – 2:50 PM</b>	<b>BREAK</b>
2:50 – 3:15 PM	Translating design to construction <ul style="list-style-type: none"> <li>• Key guidance for LID construction notes</li> </ul>
3:15 – 4:00 PM	Estimating life cycle costs based on the LID design
4:00 – 4:30 PM	Q&A / Adjournment

# Conservation Partners Partenaires de conservation



<b>Day 3 – November 9</b>	
<b>Construction, Inspection &amp; Maintenance</b>	
8:30 – 9:00 am	Registration and refreshments
9:00 – 9:05 am	Introduction and housekeeping
9:05 – 9:15 am	Recap of day 1 + 2
9:15 – 9:30 am	LID types <ul style="list-style-type: none"> <li>• Why construction processes and inspection are critical to ensure success</li> </ul>
9:30 – 10:15 am	Principles of LID construction <ul style="list-style-type: none"> <li>• Communication</li> <li>• Protection</li> <li>• Activity: Application to LID drawing set after each principle</li> </ul>
<b>10:15 – 10:35 am</b>	<b>BREAK</b>
10:35 – 11:15 am	Principle of LID construction (Continued) <ul style="list-style-type: none"> <li>• Material verification</li> <li>• Inlets / grading</li> <li>• Activity: Application to LID drawing set after each principle</li> </ul>
11:15 am – 12:15 pm	LID construction principles in relation to common installation processes for: <ul style="list-style-type: none"> <li>• Bioretention</li> <li>• Permeable Pavers</li> <li>• Perforated Pipes</li> </ul> Certification and assumption protocols. LID residential neighborhood assumption case study.
<b>12:15 – 1:00 pm</b>	<b>LUNCH</b>
1:00 – 1:30 pm	Developing a municipal LID inspection and maintenance program <ul style="list-style-type: none"> <li>• Inspection types &amp; frequency</li> <li>• Records of inspection</li> </ul>
1:30 – 2:30 pm	Inspection, operation and maintenance of bioretention <ul style="list-style-type: none"> <li>• BMP function and key components</li> <li>• Design variations (rain gardens, stormwater planters, bio-swales, bio-filters)</li> <li>• Visual inspection indicators and triggers for follow-up action</li> <li>• Routine maintenance</li> <li>• Tips for preserving BMP function</li> <li>• Standard operating procedure needs</li> <li>• Case studies: Lakeview bio-swales, County Court Blvd. bio-filter swales.</li> </ul>
<b>2:30 – 2:45 pm</b>	<b>BREAK</b>

# Conservation Partners Partenaires de conservation



2:45 – 3:45 pm	<p>Inspection, operation and maintenance of permeable pavements</p> <ul style="list-style-type: none"> <li>• BMP function and key components</li> <li>• Visual inspection indicators and triggers for follow-up action</li> <li>• Routine maintenance</li> <li>• Tips for preserving BMP function</li> <li>• Standard Operating Procedure needs</li> </ul> <p>Case studies: CVC Head Office and TRCA Kortright Centre green parking lots</p>
3:45 – 4:15 pm	Life cycle costing activity: Quantifying maintenance and operations cost
4:15 – 4:30 pm	Q&A / Adjournment

## Conference Speakers

- **Sandra Mancini**, *Team Lead, Engineering, South Nation Conservation*
- **Bill Trenouth**, *Program Manager, Credit Valley Conservation*
- **Jen Hill**, *Research Scientist, Sustainable Technologies Evaluation Program*
- **Dean Young**, *Project Manager, Sustainable Technologies Evaluation Program*