

# Stay Ahead of the Storm

Optimize Municipality and Business Performance  
with Low *Impact* Development



Credit Valley  
Conservation

## Stay Ahead of the Storm – Optimize Municipality and Business Performance with Low *Impact* Development

With the increasing pace of development, aging infrastructure and the threat of climate change, Credit Valley Conservation and its watershed stakeholders recognize that action is needed to maintain the health of our communities. We are leading by example across the region. We work with our partners to promote Low Impact Development (LID) through community engagement, hands-on professional training, support of smart development, facility upgrades, and performance monitoring.

### Low *Impact* Development can help, here's how:

**Manage Rain Where It Falls** by using a suite of LID options such as green roofs, rainwater harvesting, rain gardens, permeable pavements, perforated piping and bioswales.

**Enhance the Bottom Line** and reduce building costs. Development with LID has had an average reported **savings of 24%** compared with buildings that utilize conventional infrastructure (US EPA, 2007 Report - **Reducing Stormwater Costs** through LID Strategies and Practices)

**Provide Engineers and Planners with Stormwater Management Options** that optimize urban form to allow for **greater developable space** and added value for customers.

**Increase Infrastructure Resilience** and build flexibility within municipal and corporate infrastructure.

**Simplify Long-term Maintenance and Operations** through in-house **repairs and upgrades** without the cost of hiring skilled contractors.

### Want to *Learn* More? Ask Credit Valley Conservation

We have developed a comprehensive suite of tools to help municipalities and businesses design and implement LID strategies that work for them. Our work helps our partners reduce environmental impacts and costs while improving liveability, in new development, urban retrofits, and revitalization projects. From students to corporate leaders, we have the tools you need to undertake high-impact and leading-edge projects in your community.

### WATER MANAGEMENT IS A CURRENT, NOT FUTURE, ISSUE



of survey respondents from **Financial Times TOP 500** have developed specific water policies and strategies



of surveyed businesses have identified improved water management as a means of **reducing operating costs**



of survey respondents have set water related **performance targets**

~ 2010 CDP Water Disclosure Report

## Our Programs

## Services Offered

### Partners in Project Green

We offer LID and Pollution Prevention services to **Industrial, Commercial, and Institutional clients** for new construction, redevelopment, and retrofits



- Guidance to engineers, landscape architects, and contractors on design and construction of LID sites and pollution prevention measures, including first-hand experience through LID demonstration sites
- Peer review of engineering designs and tender documents
- Support for grant applications to enable the implementation of innovative technologies
- Onsite construction assistance
- Assistance to develop and administer focused performance monitoring of LID features, spill prevention measures, and winter maintenance practices
- Profile to companies through signage, web resources and literature, opening ceremonies and special events

### Leaders for Clean Water

We offer LID and Pollution Prevention services for **Residential Development Community and Municipalities**



- Guidance to consultants and municipal staff on the design of LID sites and Pollution Prevention measures, including first-hand experience through LID demonstration sites
- Peer review of engineering designs and tender documents
- Support for grant applications to enable the implementation of innovative technologies
- Onsite construction assistance
- Assistance to develop and administer focused performance monitoring of LID, spill prevention measures and winter maintenance practices
- Profile to developers and municipalities through outreach to residents through signage, web resources and literature, opening ceremonies and special events



### Making It Work: Professional Training

We provide **municipal staff**, the **development community**, and **planning professionals** the training they need to promote and deliver LID

#### We help professionals learn about and use LID techniques by:

- Hosting a variety of workshops, conferences and training sessions designed to educate professionals about LID techniques and their value
- Delivering industry approved training nationwide through our partnership with the Canadian Standards Association
- Producing LID guidance documents, fact sheets and presentations from past workshops, and posting them on our 'Making it Work' website:

[www.creditvalleyca.ca/sustainability/](http://www.creditvalleyca.ca/sustainability/)



### Save the Leopard Frog: CVC's Community Engagement Program

We help watershed **residents and community based organizations** understand and use LID techniques through our demonstration projects, Pollution Prevention programs and our 'Making it Work' website

#### We bring hands-on experience and learning to all ages through our:

- Engaging environmental curriculum and school field trips to the Credit River and its tributaries
- Interactive educational signage at project sites
- LID demonstration sites on school grounds



## The Benefits

- Reduces the risk of slips and falls
- Improves aesthetics
- Prepares for future stormwater regulations
- Raises company profile, increases corporate environmental accountability, and helps satisfy growing consumer expectations of sustainable solutions
- Prevents the risk of spills
- Reduces stormwater runoff and the impact of pollution on the Credit Valley Watershed

## The Programs in Action

*"I personally am very happy with how the project has turned out, and I am looking forward to continue working with CVC to find other ways in which we can better protect Mississauga's water supply."*

~ **David Armstrong, President**  
**Armstrong Manufacturing**



- Creates resilient infrastructure and improvements to the health of the watershed
- Protects and extends the life of existing drainage infrastructure
- Provides enhanced water quality and erosion protection and new capacity within existing urban form (i.e. road right of ways, under roadways, within public spaces)
- Monitoring informs future policy and decision-making, helps ensure appropriate management practices are employed at LID sites, and builds momentum and consensus around LID demonstration projects

*"We were pleased to work with the Credit Valley Conversation Authority to implement LID practices at our latest community, Walnut Grove. LID has allowed us to avoid the need for a stormwater pond, increasing the number of developable lots, and has provided homeowners with unique landscaped features."*

~ **Giulio Bianchi, Principal,**  
**Sequoia Grove Homes**

*"Through our partnership with CVC, we have been able to achieve the goals and objectives of Mississauga's Strategic Plan, Our Future Mississauga, by ensuring that the health of Mississauga's communities, natural environments and drinking water supply are protected and restored through LID strategies."*

~ **Steve Barrett, Manager,**  
**Transportation Asset Management,**  
**City of Mississauga**

### Our LID training helps:

- Evaluate the benefits, costs and efficacy of LID for projects
- Implement LID practices
- Maintain your LID project
- Stay on top of industry and government best practices and standards

### Making It Work LID conferences

With the help of over 10 partners, we have hosted nine **Making It Work LID conferences** since 2007 and reached over 2000 participants.

CVC produced guidance includes:

- LID Construction Guide
- LID Landscape Design Guide
- Pollution prevention fact sheets for industrial sites



### Through our education and engagement, residents, schools and community organizations are able to:

- Connect to the Credit Valley ecosystem
- Understand urban impacts on our rivers, creeks, and Lake Ontario
- Actively participate in greening our communities and protecting our water resources

### Save the Leopard Frog School Tours

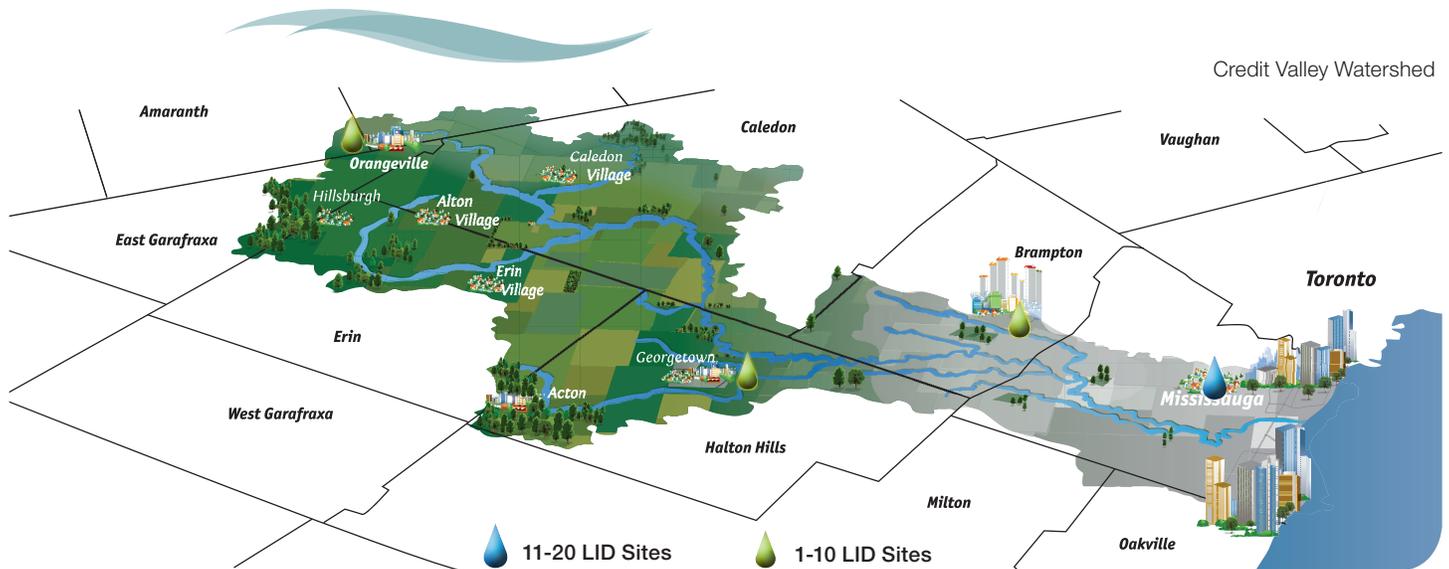
The **Save the Leopard Frog** School Tours have engaged over 4000 student participants through interactive field tours that educate participants on how they can help to improve their creeks, streams, fields, forests and rivers. School tours have led to the installation of learning centres and LID retrofits in several schools.

*"As a result of this partnership between the PDSB and CVC, we have been able to add value to the school through improved environmental sustainability as well as provide hands-on learning opportunities for our students."*

~ **Wendy Dowling, Superintendent of Education,**  
**Peel District School Board**

# The *Impact* of our Work

## Credit Valley Conservation



## Working with our Partners

We have made significant progress in the last four years in facilitating the implementation of LID in the Credit Valley Watershed. **OUR WORK HAS INCLUDED:**

**6 Guidance Documents** That assist municipalities and professionals with LID planning, design, construction, maintenance and inspection

**30 LID SITES** Reviewing the plans for 30 LID sites and providing guidance around the proper application of LID

**20 NEW PROJECTS** Supporting 20 new demonstration projects for LID, pollution prevention and special stormwater management

**9 WORKSHOPS** Providing nine workshops with 2,000 workshop participants from the development community, consulting professionals and government

**\$3.8 MILLION** Raising nearly 3.8 million dollars for implementation of LID demonstration sites, performance monitoring and technical guidance documents

**\$1.6 MILLION** Saving our partners 1.6 million dollars by undertaking LID instead of conventional stormwater management

**82,000 M<sup>3</sup>** of runoff once untreated (equivalent to 33 Olympic-size swimming pools) is now being cleaned through LID practices each year

## Future Priorities

While strides have been made with LID in the Credit Valley, there is significant work to be done to ensure LID practices are used at the scale needed to protect the Credit Valley as the pace of development continues.

### OVER THE NEXT THREE YEARS WE WILL:

**Continue our efforts** to increase the uptake of LID practices through education and capacity building, including an LID construction training program that we will pilot in 2012 and formally offer in 2013.

**Support the implementation** of further LID demonstration projects in both private and public lands to build LID experience and its profile in our community.

**Provide support and incentives** for developers and land-owners to apply LID practices through our Partners in Project Green and Leaders in Clean Water programme.

**Continue to engage all stakeholders** in addressing barriers to wider adoption of LID across Ontario.

**Achieve our goal** to treat 810,000 m<sup>3</sup> of water per year (equivalent to 326 Olympic sized swimming pools) through the construction of planned LID sites.



## Our Partners

From Credit Valley's schools to our city streets, we are creating on the ground change through collaboration with **68 diverse partners.**



POLIS Project on Ecological Governance

