

4.0 DESIGN OF STRUCTURAL LOW IMPACT DEVELOPMENT PRACTICES FOR STORMWATER MANAGEMENT

This chapter of the guide contains overviews, design templates, maintenance requirements and cost estimates for the following structural LID practices for stormwater management:

- 4.1 Rainwater harvesting;
- 4.2 Green roofs;
- 4.3 Roof downspout disconnection;
- 4.4 Soakaways, infiltration trenches and chambers;
- 4.5 Bioretention;
- 4.6 Vegetated filter strips;
- 4.7 Permeable pavement;
- 4.8 Enhanced grass swales;
- 4.9 Dry swales; and
- 4.10 Perforated pipe systems.

The overviews for each LID practice cover the following:

- Description of practice;
- Common concerns;
- Physical suitability and constraints; and
- Typical performance.

The design templates provide the following:

- Applications;
- Typical details;
- Design guidance;
- BMP sizing;
- Design resources;
- Design and material specifications; and
- Construction considerations and sequencing.

Recommended maintenance practices for each LID practice, together with base construction costs are provided where information is available. It should be noted that several of the practices as described in this guide have only been implemented for a few years. Construction, operation and maintenance costs will therefore need to be updated as these practices become more commonplace in Ontario.