

CAPTURING WATER, COOLING THE AIR

RAIN GARDENS

WHAT IS IT?

In some built-up urban areas, small gardens have begun to make forays into the asphalt that covers our parking lots, industrial areas and commercial zones. Aptly named, these **rain gardens** capture and absorb rainfall in order to reduce runoff.

WHAT IS IT USED FOR?

With increasing urbanization, more and more of our city surfaces are becoming impervious to water. Unable to penetrate the ground, rainwater **runs off** into sewers or nearby waterways, bringing with it a number of contaminants that aren't always treated. This effect is accelerating as a result of climate change, as episodes of extreme weather become more and more frequent.

Rain gardens reduce the quantity of water evacuated by sewers, especially during strong downpours. In this way, they help reduce pollution levels and protect our sources of drinking water. Finally, they mitigate heat emissions, beautify the urban environment and improve air quality.

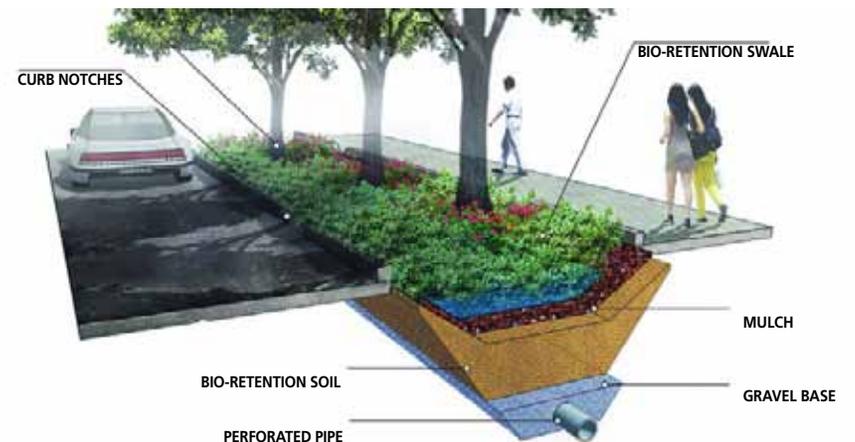
HOW IS IT MADE?

A rain garden, also called a **bioretention area**, is a depression where rain-water runoff from nearby roofs and paved surfaces can collect and be absorbed. Plants filter the surface water and evaporate it through their leaves.

This phytotechnology requires the use of highly versatile plants because conditions and contamination levels can vary widely: the gardens may be flooded with water loaded with salt or sediment, just as they may experience prolonged dry spells. The systems put in place must be able to handle these fluctuations in water quantity and quality.



Section drawing of a rain garden¹



Section drawing of a rain garden²

¹ <https://www.columbus.gov/Templates/Detail.aspx?id=53960>

² <http://imgfl.com/whats-a-bioswale>

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IN QUEBEC



The Mountain Equipment Coop store located in Longueuil, on Montreal's South Shore, has implemented an **optimized management system for rainwater** that includes a rain garden.³

IN THE WORLD



Photo: New York City

In 2010, New York City rolled out an ambitious project to divert runoff from the sewers for 10% of the city's impervious surfaces. The program includes 6,000 rain gardens operating in tandem with other technologies: permeable pavers, drainage swales, cisterns for collecting water, etc.⁴

³ See <http://www.voirvert.ca/projets/projet-etude/le-jardin-de-pluie-du-mec-longueuil> (French only)

⁴ http://www.nyc.gov/html/dep/html/stormwater/using_green_infra_to_manage_stormwater.shtml