

[What is LID and How Does it Work?](#)

Low Impact Development (LID) is an approach to land development (or re-development) that works with nature to manage rainwater as close to its source as possible. It uses a system of measures like those described below, to help slow, filter, infiltrate, and evaporate the run-off.

NATIVE PLANTS - The Native Plants used in the Main Street bio-retention areas are bimodal, which means they can grow well in wet or dry soil. Rain garden plants will not survive if they cannot withstand both extreme drought and extreme floods. Bimodal plants have long, deep-growing roots that are able to direct water downward through channels in the soil. Their long roots help the plants reach available moisture during the driest times so they do not require irrigation.

RAIN GARDENS - The Rain Gardens are part of a system that treats the rainwater as it runs off, filters pollutants and debris, and helps store the water. This is done with a combination of a special mix of soil and different sizes of rock. As water passes through each of these, it is slowed down and the pollutants are filtered out of the water. Any water left after the roots of the plants have absorbed what they can is then carried through perforated drain pipes into the existing drainage system along the street.

PERMEABLE MATERIALS - Permeable Concrete and Permeable Pavers have been used to help store and slow down rainwater as it passes over the surface. Water filters through the permeable concrete and pavers instead of quickly running over them and into storm drains. This process will filter the pollutants out of the water as it drains through the system of different sizes of rock before making its way into drain pipes. Permeable concrete and pavers have been used in parallel parking areas, plaza spaces, vehicular driving lanes as well as the curb and gutter on the 300 Block.

VEGETATED WALL - Typically, a Vegetated Wall is an extension of a building covered with some kind of plant. The vegetated walls for demonstration on Main Street consist of freestanding concrete walls with clinging vines. These walls will help to take in rainwater to reduce runoff loads, as well as regulate temperature through thermal insulation. A typical vegetated building wall would then reduce heating and cooling loads. Here, the walls help to absorb the noise from traffic and make the space more walkable.

VEGETATIVE FILTER STRIPS - Vegetative Filter Strips are landscaped slopes that are used to structurally stabilize the slope to prevent erosion and slumping. They are also used along the banks of waterways to slow down rainwater and filter out pollutants before reaching the water. Vegetative filter strips are usually located parallel to a parking lot, driveway, roadway or sidewalk to slow down rainwater by converting it into sheet flow along its entire length.

BIOSWALES – The Bioswales are designed to remove silt and pollutants from the rainwater that runs off city surfaces. The vegetated swales have gently sloped sides and are filled with plants, mulch and/or river rock. The water's flow path, along with the wide and shallow depression, is designed to maximize the time the rainwater spends in the swale, which aids the trapping of silt and pollutants. As in a rain garden and in permeable pavements, a system of a special mix of soil and different sizes of rock are used as the filtering agent.