

# Water

**Our water system was an engineering marvel when it was created over 100 years ago.** But today, rapid redevelopment combined with an aging infrastructure is affecting the quality of life of Jersey City residents and impacting the quality of our environment.

Today our combined sewer system too often overflows into our waterways, on to our streets and into our homes. We must ensure that both stormwater and wastewater reach the treatment plant and minimize the discharge of polluted water into the environment.

These two challenges – upgrading our aging infrastructure and minimizing the impacts of stormwater – will require continued investment. Jersey City must face these challenges to reduce combined sewer overflows, prevent local flooding, and protect human health and the environment.

## Upgrade Our Aging Infrastructure

Much of our sewer system was constructed a century ago. Recently, Jersey City has only made repairs in response to regulatory directives. As a result, the system has been allowed to disintegrate over many years of neglect.

Our city is still serviced by a combined sewer system, which means that untreated sewage and stormwater are combined in the same sewer pipe. During storm events, our system cannot handle the added volume of

stormwater. This results in flooding and combined sewer overflows (CFOs). New infrastructure upgrades are required for Jersey City to address these problems.

In some cases, the added volume also causes collapsed, broken, or undersized pipes to backup (surcharge) and a combination of stormwater and sewage floods our streets and basements. Minimizing the impact of development on stormwater will reduce the volume of storm water during storm events and alleviate both flooding and CSOs.

---

## Minimize Impacts of Stormwater

Low Impact Development (LID) is a stormwater management strategy that mitigates the impacts of increased runoff and pollution due to development. LID uses natural systems for infiltration, evaporation and reuse of rainwater. These techniques reduce the volume and intensity of stormwater flows, and remove pollutants from stormwater.

LID practices can also offset the costs associated with regulatory requirements for stormwater

control. In the vast majority of cases, significant cost savings were realized due to decreased costs associated with stormwater infrastructure, paving, and grading. According to an EPA study, total capital cost savings can range from 15-80 percent. (see [www.epa.gov/nps/lid](http://www.epa.gov/nps/lid) for full report)

LID should be a requirement for all future development projects in Jersey City. Jersey City should also strive to increase the amount of green permeable surfaces across the city to reduce storm water runoff.

# Initiatives

## INITIATIVE 1

### Develop and implement a Master Plan

The Jersey City Municipal Utilities Authority (MUA) should prepare and implement a master plan that outlines the infrastructure upgrades required to ensure that all wastewater and stormwater flow to the treatment plant. The plan should include estimates of cost, phasing and the time required to upgrade our 100-year old sewer system. The City should work with the MUA to review and fund approved capital budgets.

## INITIATIVE 2

### Increase use of High Level Storm Sewers (HLSS)

High Level Storm Sewers (HLSS) are one strategy for alleviating pressure on the combined sewer system and limiting CSO events in waterfront areas. These sewers are designed to capture approximately 50% of the rainfall before it enters the system, and divert it directly into waterway through permitted outfalls.

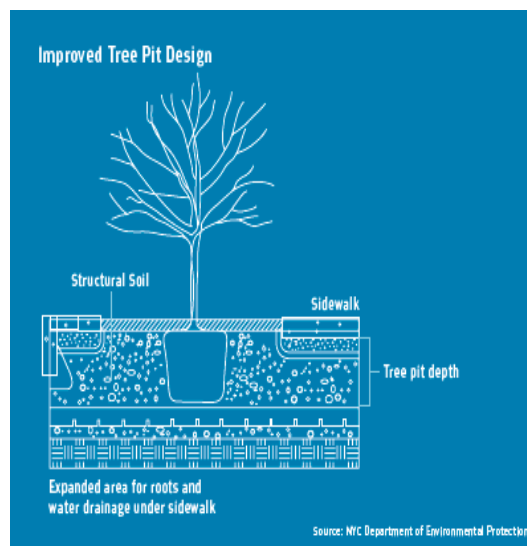
In addition to reducing the volume of flows to the treatment plant and CSOs, they will alleviate street flooding in waterfront areas.

## INITIATIVE 3

### Maximize the use of Green Space

Jersey City should maximize the use of green space for stormwater capture and retention. Green space absorbs millions of gallons of water for every inch of rain. New York City estimates that street trees alone capture 870 million gallons of water each year.

Jersey City should implement a “Greenstreets” program to increase the amount of water captured by trees. A one-acre Greenstreets site will retain about 55,000 gallons of stormwater. The use of Improved Tree Pit Designs would significantly increase this capacity.



## INITIATIVE 4

### Require Low Impact Development

Low Impact Development (LID) is a stormwater management strategy that mitigates the impacts of increased runoff and pollution due to development. LID uses natural systems for infiltration, evaporation and reuse of rainwater. These techniques reduce the volume and intensity of stormwater flows, and remove pollutants from stormwater.

Jersey City should modify zoning to require LID for all future development projects in Jersey City.

These practices include but are not limited to the preservation of open space, reduced requirement for street and sidewalk widths, use of porous pavement and infiltration basins, and creating swales and retention gardens.

# Initiatives

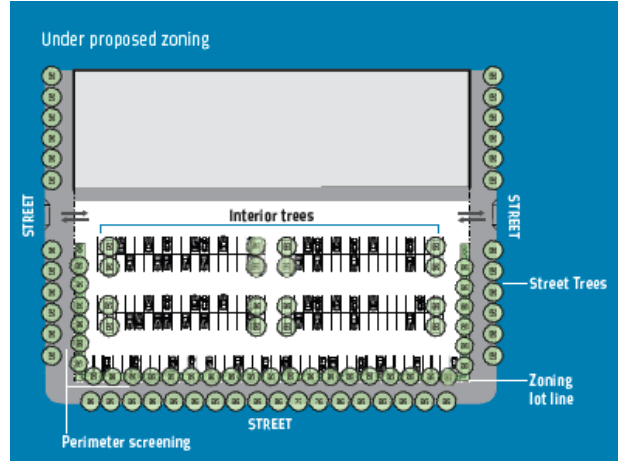
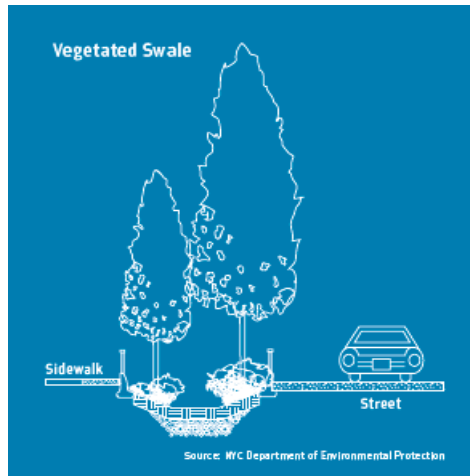
## INITIATIVE 5

### Require green parking lots, roads and highways

Jersey City should modify its building ordinance to include design guidelines for commercial and community facilities that require green parking lots, streets, and highways.

When so much of our city consists of impervious buildings, parking lots, and roads, storm water cannot trickle back into the ground. Instead, it flows into our sewers and places added strain on our aging infrastructure.

Requiring developers to include trees and landscaping in parking lot design and construction is a cost effective way for the private sector to help alleviate the strain development places on our aging sewer system.



Zoning modifications should require perimeter landscaping for commercial and community facility lots over 6,000 square feet as well as street planting on adjacent sidewalks. Lots above 12,000 square feet should also include trees and planting islands within each lot (see above diagram).

The City should also incorporate requirements for vegetated ditches (swales) adjacent to parking lots, streets, and highways. In addition to storing direct rainfall and reducing stormwater volumes entering the sewer system, swales filter and clean the runoff through soil and vegetation (see illustration to left).

## INITIATIVE 6

### Require green roofs for developments receiving tax abatements

Jersey City should require green roofs for commercial and residential developments receiving tax abatements. In addition to reducing the volume of runoff by absorbing and storing storm water, a green roof can be an added green space enjoyed by building occupants. According to the Riverkeeper, for every 40-square feet of green roof, 810 gallons of water will be captured annually.

