

## STORMWATER DETENTION BASINS ARE GREEN SPACES TOO

Stormwater detention basins are a common method for reducing street flooding caused by heavy rainfall and snow melting. The City of Cleveland has two large detention basins that collect and store stormwater and then slowly release it at a controlled rate so that storm sewers are not overwhelmed and result in street and basement flooding, stream erosion and water pollution.

The Cleveland detention basins also are important green spaces, the same as parks and natural spaces. While the areas are not open for public enjoyment, they nonetheless enhance the environmental aesthetics of our city with wetlands full of native plants and habitats for birds and other wildlife.

Green spaces also recharge groundwater supplies and protect Lake Erie and its tributary streams from polluted runoff.

## KERRUISH STORMWATER CONTROL AREA AND BASIN

The Kerruish Stormwater Control Area is located on Cleveland's southeast side, north of Interstate 480 and East of Lee Road. A densely forested 10-acre area, Kerruish is adjacent to a park of the same name and home to the large perennial Mill Creek stream and wetlands.

Kerruish is comprised of three different stormwater control practices that drain four square miles to reduce flooding on the nearby highway, residential streets and other areas down stream along the Mill Creek:

### Detention Basin

The Kerruish Park stormwater basin is a 300-foot long, 40-foot high earthen embankment that receives and holds runoff for release at a slower rate, thereby reducing the peak runoff delivered to the nearby Mill Creek stream. It holds back heavy flows and allows the sediments to filter out. A pipe to the basin allows water to drain from the pond.

### Emergency Spillway

The emergency spillway is a man-made structure designed to provide a controlled release for water if flooding occurs. The spillway does not take on flow directly. The spillway is the backup for the detention basin. When the detention basin gets too full, it overflows into the spillway. The spillway ensures water does not overflow and damage the basin.

### Trash Rack

A structure designed to minimize debris from obstructing the flow of a waterway and preventing debris from clogging stormwater outlet structures. The rack traps material on the outside of its structure where it can easily be removed.



Detention Basin

Trash Rack/Outlet

Emergency Spillway

Outlet Pipe

Inlet

Mill Creek

Mill Creek

Emergency Spillway in the Kerruish Stormwater Control Area. The spillway is a man-made structure designed to control the release of water during heavy rainfall to avoid street flooding.

# PURITAS STORMWATER DETENTION BASIN

The Puritas Stormwater Detention Basin is an 80-acre area on Cleveland's west side, nestled between residential and light industrial properties within the Big Creek Watershed. It is fed by a man-made channel that directs stormwater runoff away from nearby properties and Interstate 480. The site, two miles south of Lake Erie and between West 140th and West 150th streets, formerly was home to American Agricultural Chemical Company, a commercial fertilizer plant.

What makes the Puritas Stormwater Basin unique is that it also is a designated open-water urban wetland, with a robust ecological character. Surveys conducted by the Cleveland Museum of Natural History beginning in 2005 revealed more than 138 avian species, including the endangered Ohio yellow-bellied sapsucker, the olive-sided flycatcher, the American bittern and Wilson's snipe. More than 66 native plant species have been catalogued, including sun drops and sometimes the whorled milkweed.

The overall vision for the site, in addition to being a functioning stormwater basin, is to maintain and enhance the natural environment by improving the migratory bird habitat and managing invasive plant species.



Aerial view of the Puritas Stormwater detention basin.