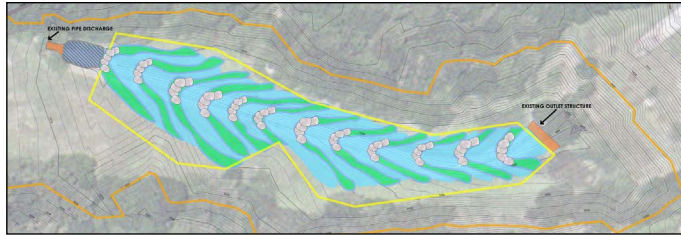


CITY OF SOUTH EUCLID

Nine Mile Creek Watershed Improvement

South Euclid, Ohio



above: Concept plan; below: After restoration with inset of initial conditions

The Langerdale detention basin, owned and operated by the City of South Euclid, Ohio, is an on-line flood control basin draining 7.6 square miles in the Nine Mile Creek watershed. Built in the early 1960s as a traditional “dry pond,” the

basin relegated the stream to a concrete channel. The basin included a system that allowed any overflow to flow directly down Langerdale Boulevard through a secondary spillway structure. Since its creation, the detention basin had overflowed twice, causing flooding to adjacent homes.

A “dry pond” was transformed into a sustainable, living system that manages stormwater and fosters habitat.

Recognizing the value of Nine Mile Creek as a tributary to Lake Erie and as a critical component of the community’s green infrastructure, the City launched an effort to restore this urban stream, beginning with a retrofit of the detention basin.

Biohabitats worked closely with the City of South Euclid to develop a concept and ultimately a final design package to retrofit the basin. The design increased treatment and storage areas, introduced naturally vegetated wetland areas, restored the channelized drainage way to a natural channel, and created areas for aquatic habitat. To maximize the detention time of the first flush of runoff, Biohabitats designed a series of wetland pools separated by low crested earthen weirs.

This approach was developed with the parallel goals of maximizing storage volume, augmenting aquatic habitat and minimizing long term maintenance.

In 2008, the City completed construction of the basin, which required excavating 14,000 cubic yards of soil, installing 14 floodweirs and open-water pools, and planting five vegetation zones. The planting zones included aquatic bed and open water wetland, scrub-shrub emergent wetland, forested wetland, riparian deciduous forest and native mesic meadow.

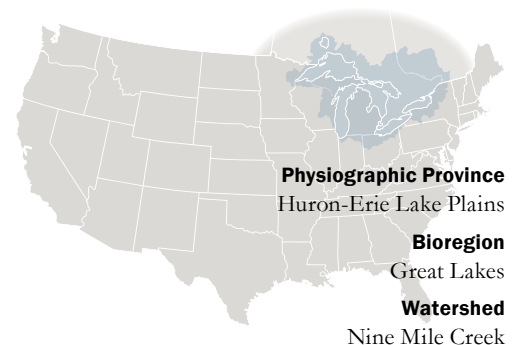
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Physiographic Province
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Nine Mile Creek