

# Doan Brook

## stream enhancement project



AUGUST 2011

## Improving and protecting the brook

The Northeast Ohio Regional Sewer District is working to enhance and restore portions of the lower Doan Brook. The Doan Brook Stream Enhancement Project focuses on the section of the brook between East 105th Street at Martin Luther King, Jr. Boulevard and Wade Park Avenue. Required by the Ohio Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (USACE), this enhancement project will mitigate impacts to Abram Creek from the Cleveland Hopkins International Airport expansion project. The District has a long-term interest in the ecological restoration of Doan Brook and is this project's manager for design and implementation.

In late 2010, the District hired the services of CT Consultants to complete the design of the Doan Brook Stream Enhancement Project. Throughout the design process, stakeholder input will be requested through Stakeholder Meetings such as the one conducted on January 18, 2011 to share information about the updated project and to explore stakeholder ideas in advance of any technical design work commencing.

The design team used input from this meeting with technical information about the brook to begin the stream enhancement design. Since this project involves the use of federal funds, through the Federal Aviation Administration (FAA), and potentially impacts historic properties (e.g., Rockefeller Park), Section 106 of the National Historic Preservation Act (NHPA) applies. The District also retained the services of Mannik & Smith for the Section 106 Consultation Process and Stakeholder Involvement for the project. A second Stakeholder Meeting was held on May 24, 2011 to review the conceptual stream restoration design. At this meeting the design team and the District detailed plans to focus the current enhancement project on the section of stream from E. 105th to the crossing under MLK near the lagoon.

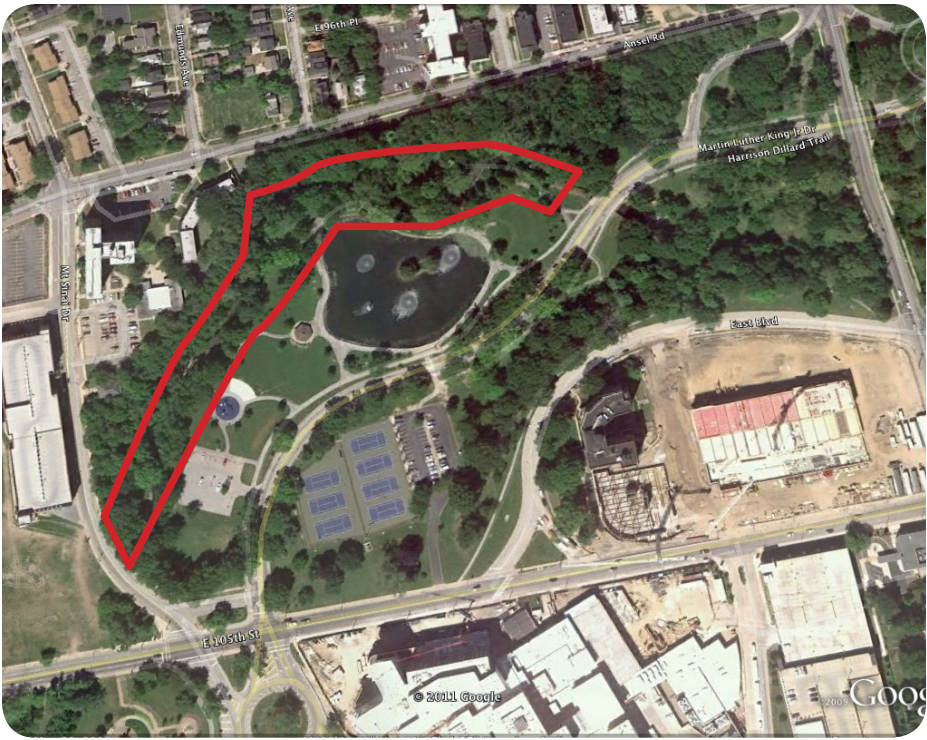
## About Doan Brook

The Doan Brook begins in the Heights area of Greater Cleveland and carries flows from portions of Shaker Heights, Cleveland Heights, and Cleveland. The Doan Brook watershed drains directly to Lake Erie at Dike 14. The Doan Brook watershed was developed over the past 200 years and is home to most of the area's cultural museums and the historic Rockefeller Park with its cultural gardens exhibition.

As the area developed, forests and wetlands were replaced by roads, buildings and parking lots, creating impervious services that prevent rainwater from percolating into the ground. The initial effect of urbanization on stream channels is increased runoff volume and velocity, resulting in channel erosion and higher sediment loads. The channel erosion and increased sediment combine to degrade the aquatic habitat of the stream.

Today, the lower Doan Brook is impacted by flooding, stormwater, and combined sewer overflows.

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The red line indicates the project limits as of August 24, 2011.

## PROJECT GOALS

- Improve the aquatic habitat in restored areas
- Provide better control of stream flows
- Provide for floodplain access
- Improve and enhance riparian vegetative cover
- Provide limited removal of invasive plant species
- Provide for some limited access to the brook for users of the park while increasing safety.
- The design will accomplish these goals through Structural Elements, Managed Enhancements and Naturalized Enhancements.

Throughout the design process the design team has been evaluating the size and shape of the stream channel to ensure a stable stream channel is created at the end of the project. A stable stream channel will reduce the amount of erosion along the stream banks, provide a low flow channel so water does not stagnate during dry months, and allow areas where the stream can safely access a floodplain. To create a stable stream channel, the design will address existing stream bank erosion, failing and deteriorating walls, and creation of stream features called pools and riffles that provide stability and habitat for aquatic bugs and fish thus improving the ecology and life of this stream.

Plans are being developed and the designers will be submitting preliminary plans within the next couple of weeks. The project team will be reviewing the plans with the regulatory agencies and stakeholders again prior to final plans being approved by the District. Construction will begin in the late spring of 2012 and is anticipated to be completed by end of the year. **LEARN MORE:** [neorsd.org/doanbrook](http://neorsd.org/doanbrook)

The Northeast Ohio Regional Sewer District also is working to address combined sewer overflows in the area through its 25-year Project Clean Lake initiative **LEARN MORE:** [neorsd.org/cleanlake](http://neorsd.org/cleanlake)

Homeowners also can improve water quality of Doan Brook, too:

- Create a rain garden to infiltrate pavement or roof runoff
- Keep pollutants and trash out of storm drains
- Limit the use of herbicides, pesticides and fertilizers

More information on home tips to improve the Doan Brook can be found on the Districts web page at [neorsd.org/rainworkingforyou.php](http://neorsd.org/rainworkingforyou.php) and through the Doan Brook Partnership at [doanbrookpartnership.org](http://doanbrookpartnership.org).



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