

EAST FORK LITTLE MIAMI RIVER STORMWATER RETROFIT ANALYSIS

Metropolitan Cincinnati, Clermont County

Date Completed: 2010

Description: The Hall Run and Salt Run subwatersheds, both a part of the greater East Fork River watershed, were analyzed for potential stormwater retrofit projects. Stormwater retrofits were identified for 6 potential sites.

Project Size: 202.5 acres



*Below: William H. Harsha Lake at East Fork State Park, Clermont County Ohio
(photo: Timothy O'Connor)*





East Fork Little Miami River Stormwater Retrofit Analysis

Relevant Skill Areas:

- Stormwater BMPs
- Watershed Planning
- Green Infrastructure Design

Client(s):

Paul Braasch
Clermont County
Director, Office of
Environmental Quality
(513) 732-7745

Duration:

2009 to 2010

Cost: \$15,000

Tetra Tech Contact:

Kevin Kratt
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Tetra Tech supported a multiyear project with Clermont County, Ohio, to develop and implement a comprehensive water resources management plan. As part of this effort, Tetra Tech identified potential stormwater retrofit projects within the Hall Run and Salt Run subwatersheds. GIS tools were used to conduct a preliminary site search based on aerial photography, topography, parcel data, a stormwater outfall inventory, and impervious area coverages.

The site search focused on highly impervious areas to maximize potential project benefits. For each of the 21 sites identified, drainage areas were delineated and percent imperviousness was determined. Based on these factors, stormwater management measures were selected and preliminarily sized to check for enough available space. Contour, parcel, and aerial photographs were used to site the projects, and maps were prepared for each feasible site to take into the field for further constraint analyses.

Site visits were conducted to further evaluate the feasibility of the projects with the primary purpose of ensuring that the GIS coverages accurately depicted what actual site conditions were, and to identify potential construction constraints. Existing ponds and other BMPs identified during the GIS analysis were also visited to see if additional opportunities for stormwater management existed, such as treating areas that might bypass the existing management measures.

Additional sites not discovered during the GIS analysis were also identified, and drainage areas and preliminary sizing were performed for those sites as well.



Based upon the GIS review and site visits, four potential projects were identified within the study area that presented good opportunities for stormwater management and water quality improvement. After further discussions with Clermont County stormwater staff, two additional sites were added due to impending development within the drainage area, and to locate a site that may serve as a more regional facility. Project data sheets and conceptual plans were prepared for the six recommended projects, and preliminary construction costs were calculated. Tetra Tech also provided recommendations for retrofitting a number of existing ponds in each subwatershed to constructed wetlands where soil conditions and water sources allow. These recommendations included increasing the existing storage capacities and/or installing controlled outlets and plants in the existing ponds to provide additional peak flow control and improve the treatment of stormwater by utilizing the nutrient uptake capacity of the plants.

Developer/Client/Owner:

Paul Braasch, Clermont County Director
Clermont County Office of Environmental Quality
4400 Haskell Lane
Batavia, Ohio 45103
www.oeq.net

Designer/Consultant:

Kevin Kratt
Tetra Tech, Inc.
1468 West Ninth Street, Ste. 620
Cleveland, OH 44113
www.tetrattech.com

Project Cost: \$15,000

Maintenance Cost: N/A

Funding Sources / Incentives: This was a planning study funded by the county.

Applicable Zoning Regulations: None

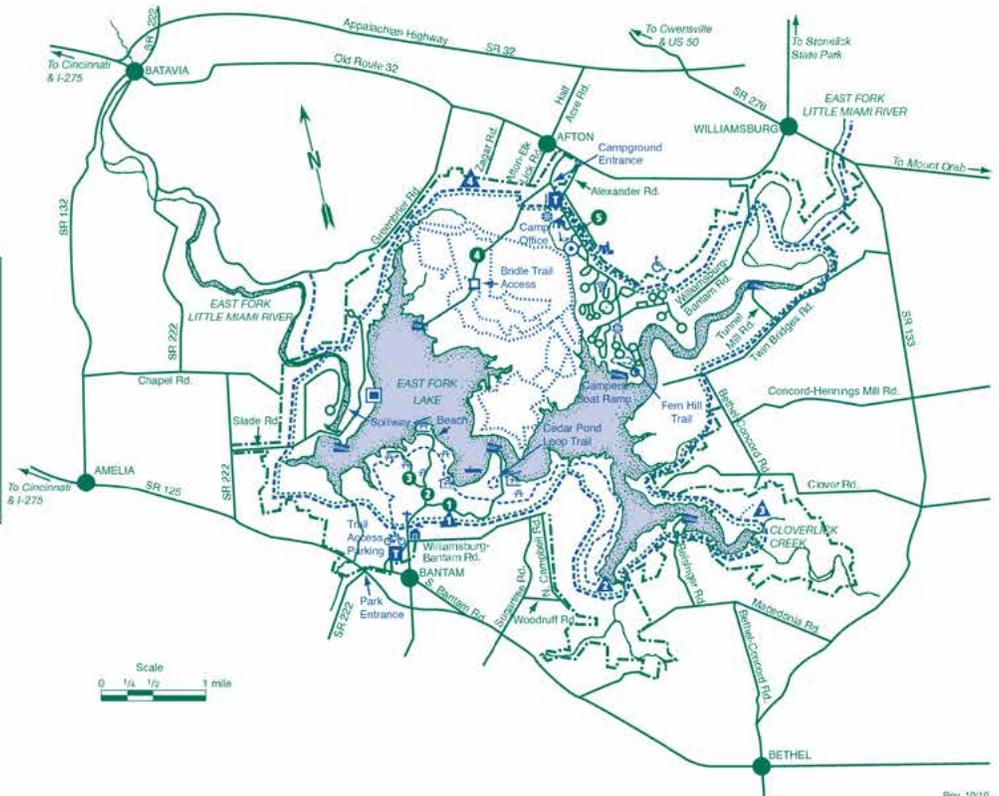
East Fork State Park

Park location:
3294 Elklick Rd.
Bethel, OH 45106

(513) 734-4323 - Park Office
(513) 724-6521 - Camp Store

Campground Address for GPS:
2837 Old State Route 32
Batavia, Ohio 45103

LEGEND



Above: East Fork State Park Map
(map: The State of Ohio Department of Natural Resources)