

## **Cuyahoga County GLRI/SWIF Grant Project Summaries**



*Doan Brook, Shaker Hts. Ohio*

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**June 2, 2010**

Nonpoint Source Program  
Russ Gibson, NPS Manager

**Background:** The Surface Water Improvement Fund was created in 2008 with the passage of Ohio House Bill 119 and authorizes the Ohio Environmental Protection Agency to provide grant funding to applicants such as local governments, park districts, conservation organizations and others. During 2010, there was \$1.5 million available that was required to be awarded for projects in Cuyahoga County only. Ohio EPA elected to use the state SWIF funding as local match for a Great Lakes Restoration Initiative (GLRI) grant from US EPA in which an additional \$1 million may be available for total SWIF awards for Cuyahoga County of \$2.5 million. We are awaiting formal notification of this award and expect to hear on April 30, 2010.

Applications were due on February 15, 2010 and for projects in Cuyahoga County, Ohio EPA received 40 applications. A total of 13 of these projects were successful and are being awarded 2010 GLRI/SWIF grants. Grants are awarded for two –year periods with effective start dates anticipated to be June 1<sup>st</sup>, 2010.

**Eligible Applicants:** The following entities in Cuyahoga County were eligible to apply for grant funding from the Surface Water Improvement Fund during 2010:

- Local municipalities, counties and townships
- Park districts
- County Soil & Water Conservation District
- City and/or county health departments
- 501(c)(3) non-profit conservation groups with land managing responsibilities
- Watershed groups that are sponsored by a local government
- Recognized land conservations or trusts

**Eligible Projects:** Water quality improvement project eligible for SWIF funding include:

- Stream restoration and/or renaturalization
- Riparian restoration and protection
- Wetland restoration and protection
- Innovative storm water management demonstration projects
- Inland lakes restoration and management
- Replacement and/or repair of on-site home sewage treatment systems.

### Ohio EPA—Division of Surface Water 2010 Recommended Cuyahoga County GLRI/SWIF Subgrant Recipients

Project Number	Applicant	Project Title	Amount Recommended
#10SWIF-CUY-042	City of Brecksville	Glen Forest Trail Stream Channel Restoration	\$181,900
#10SWIF-CUY-027	City of Broadview Heights	Elsa Drive Wetland Restoration and Protection	\$219,727
#10SWIF-CUY-083	City of Seven Hills	Project R.A.I.N. at City Hall	\$265,530
#10SWIF-CUY-047	Nature Center at Shaker Lakes	Restoring a Wetland with Native Species	\$78,664
#10SWIF-CUY-067	Village of Gates Mills	Gates Mills Stormwater Retrofit Demonstration	\$87,525
#10SWIF-CUY-034	City of Mayfield Heights	Mayfield Heights Green Infrastructure Demo	\$231,900
#10SWIF-CUY-049	City of North Olmsted	City Hall Parking Lot Stormwater BMPs	\$196,028
#10SWIF-CUY-102	City of Cleveland Heights	Cumberland Park Parking Lot Improvements	\$238,726
#10GLRI-CUY-082	Village of Glenwillow	Glenwillow Green Infrastructure Demonstration	\$63,050
#10GLRI-CUY-068	Village of Hunting Valley	Green Stabilization of Riparian Area in Chagrin	\$137,500
#10GLRI-CUY-123	Cuyahoga County SWCD	Baldwin Creek Dam Removal & Habitat Enhance	\$147,270
#10GLRI-CUY-039	City of Cleveland	Cleveland WPC Stormwater Mgmt Improvements	\$260,158
#10GLRI-CUY-075	ParkWorks	Cleveland's Lake Link Greenway Bioswale	\$161,659
<b>TOTAL RECOMMENDED</b>			<b>\$2,269,636</b>



## 2010 Surface Water Improvement Grant Project Summary

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**Project Number** #10SWIF-CUY-042  
**Est. Project Completion** November, 2010

**SubGrantee** **City of Brecksville**  
9069 Brecksville Road  
Brecksville, OH 44141

**Project Contact:** **Victoria McCauley, City Engineer**  
City of Brecksville

**Amount Recommended:** \$181,900

**Project Title:** **Glen Forest Trail Stream Channel Restoration Project**

**Project Location:** City of Brecksville, Cuyahoga County  
**Watershed:** Unnamed Tributary to the Cuyahoga River

**Project Summary:** \$181,900 in Surface Water Improvement Fund (SWIF) grant funding is recommended to complete stream channel and floodplain restoration on an unnamed tributary to the Cuyahoga River. Within the project site, the tributary stream is a highly channelized, urbanized stream that has been heavily impacted with vertical treated timber crib walls for its entire open water length, extensive use of culverts, concrete lined channel in some locations and extensive residential development. Stream banks behind the crib wall have eroded in a number of locations throughout the project area causing sediment to be carried downstream and be deposited into neighboring wetland areas and the Cuyahoga River. This project will restore and re-naturalize 530 linear feet of the stream channel while also providing a functional floodplain that currently does not exist. Activities will be supported by a project specific education and outreach effort resulting in the production of fact sheets, issuance of news releases, newsletter article and a project site on the city's website. This project is shovel ready and will commence construction activities upon receipt of SWIF grant funding.

Although not specifically recommended in the Cuyahoga River Total Maximum Daily Load Study that was completed by Ohio EPA approved by USEPA in 2003, this project is being implemented consistent with the habitat improvement recommendations included in the TMDL.

### **Project Deliverables:**

- Restoration of 530 linear feet of an unnamed tributary to the Cuyahoga River using such design features as restoration of a functional floodplain, installation of in-stream features such as 6 stone grade controls and revegetation of both streambanks.
- Rehabilitation and enhancement of 530 linear feet of riparian habitat using native plant materials such as hardwood seedlings and shrubs. Total acreage to be enhanced will be approximately 4/10ths of an acre.

- Conduct a project specific public education and outreach program including the production of 1 project fact sheet, 2 press releases, 1 newsletter article and 3 updates to a project specific webpage on the city's website.

**Environmental Results:** Successful completion of this project is expected to restore 530 linear feet of natural stream habitat and to reduce sediment loadings to the Cuyahoga River.



**Current Project Site Conditions**



## 2010 Surface Water Improvement Grant Project Summary

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**Project Number** #10SWIF-CUY-027

**Est. Project Completion** November, 2010

**SubGrantee** **City of Broadview Heights**  
9543 Broadview Road  
Broadview Heights, OH 44147

**Project Contact:** **Eugene Esser, City Engineer**  
City of Broadview Heights

**Amount Recommended** \$219,727

**Project Title:** **Elsa Drive Wetland Restoration and Protection Project**

**Project Location:** City of Broadview Heights, Cuyahoga County

**Watershed:** Chippewa Creek Watershed

**Project Summary:** \$219,727 in Surface Water Improvement Fund (SWIF) grant funding is recommended to complete restoration and enhancement of the 1.9 acre Elsa Drive wetland area. This project proposes to increase the existing 1.9 acre wetland area to a total of 3.5 acres and to increase stormwater treatment and capacity by 5.4 acre feet. The Elsa Drive Wetland Restoration Project will be a first step in implementing the Chippewa Creek Balanced Growth Initiative Watershed Plan and will serve as an effective demonstration of the use of green infrastructure practices in solving stormwater management concerns and improving surface water quality. The enhanced floodplain wetland areas will restore wetland habitat and vegetation through the planting of native species and elimination of invasive plant species during construction activities.

The Elsa Drive project site is located on the boundary of Broadview Heights and the city of North Royalton. The property is a total of 7 acres consisting of an upper and lower wetland basin. A tributary to Chippewa Creek flows for approximately 725 linear feet and flows to the southeast corner of the property. The two wetland basins on the project site are connected by a 36 inch culvert and separated by differences in their elevation. This project is shovel ready and will commence construction activities upon receipt of SWIF grant funding.

### **Project Deliverables:**

- Completion and preparation of one set of design documents and a separate set of construction documents.
- Restoration and enhancement of 3.5 acres of existing wetlands using a combination of removing all invasive species incidental to construction and planting native species of wetland grasses and shrubs.

- Installation of four water control devices to insure stability of the wetland area as well as satisfactory holding capacity for stormwater management and passive treatment.
- Installing 20 boundary markers and placing the entire 7 acre parcel under the protection of a conservation easement.
- At the city's expense, constructing 1,100 linear feet of interpretative and educational access trails around the wetland area.
- Conducting project specific education and outreach activities including the development of 1 fact sheet, conducting 2 public meetings, issuing 1 press release, developing a project specific website, installing 3 interpretative signs and other activities designed to enhance the public's knowledge and awareness of green stormwater infrastructure practices and alternatives.

**Environmental Results:** Successful completion of this project is expected to restore and expand the existing Elsa Drive wetland area from 1.9 to 3.5 acres and increase stormwater treatment and storage capacity by 5.4 acre/feet. Additional benefits include:

- Restoring existing wetland quality with native species plantings.
- Increasing wetland area from 1.9 to 3.5 total acres.
- Establishing permanent protection of the wetland area with a conservation easement.
- Prevent erosion and sediment loadings to Chippewa Creek.
- Restore native wetland vegetation.
- Increase riparian area buffer plantings.
- Creating the first wetland park in the city of Broadview Heights.
- Serving as an effective demonstration of innovative stormwater management.

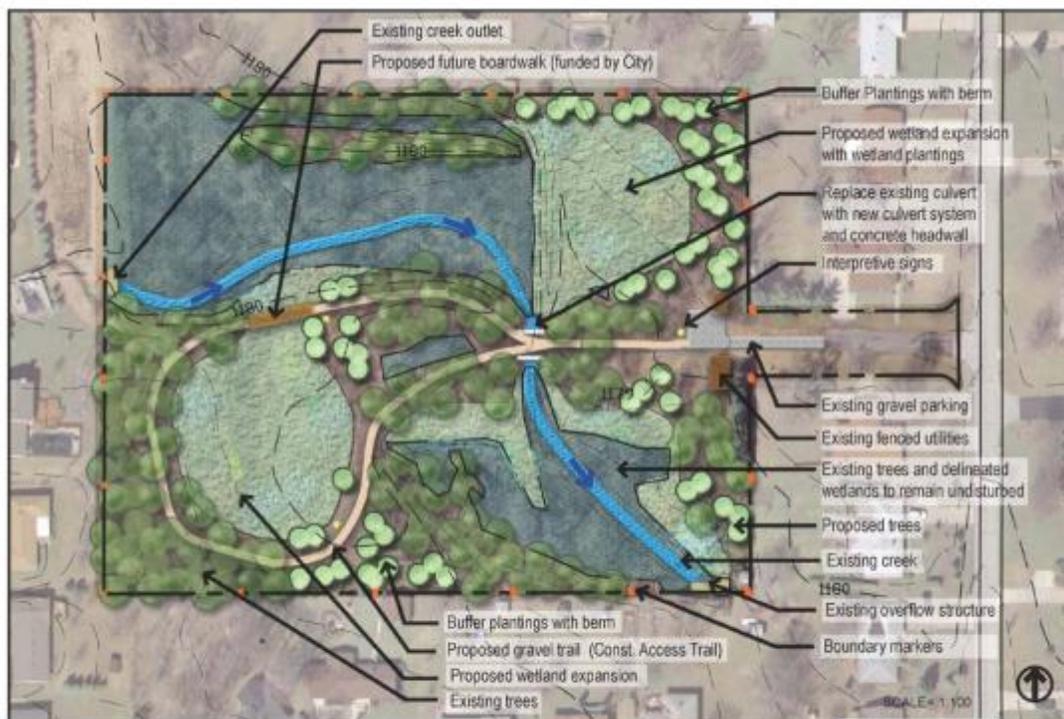


FIGURE 4. CONCEPTUAL WETLAND PLAN

ELSA DRIVE PROPERTY  
WETLAND RESTORATION & PROTECTION PROJECT  
CITY OF BROADVIEW HEIGHTS



## 2010 Surface Water Improvement Grant Project Summary

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**Project Number** #10SWIF-CUY-083

**Est. Project Completion** November, 2010

**SubGrantee** **City of Seven Hills**  
7325 Summitview Drive  
Seven Hills, OH 44131

**Project Contact:** **Mark K. Papke, P.E. – City Engineer**  
City of Seven Hills

**Amount Recommended:** \$256,530

**Project Title:** **Project R.A.I.N. at City Hall**

**Project Location:** City of Seven Hills, Cuyahoga County

**Watershed:** West Creek--Tributary to the Cuyahoga River

**Project Summary:** \$256,530 in Surface Water Improvement Fund (SWIF) grant funding is recommended to implement a comprehensive stormwater demonstration project at the city hall building within the city of Seven Hills, Ohio. The proposed project is a component of a larger city-wide stormwater management and has the goals of: redirecting city hall parking lot rainwater to two separate bio-retention cells; harvesting rainwater from the western bio-retention cell for irrigation purposes; installing permeable pavers and conducting a project specific education and outreach program including the development and installation of a public information kiosk identifying innovative stormwater BMPs.

The project will result in the installation of two bio-retention cells totaling 3,360 square feet; a rainwater collection cistern; 1,781 square feet of permeable pavement and other practices within the city hall campus. This project will also result in the invitation of developers, contractors and residents to a stormwater management workshop sponsored by the city, project contractor and representatives of the Cuyahoga County Soil & Water Conservation District. Project administration, public outreach and bid advertisement costs will be provided by the city.

West Creek has both a state endorsed watershed action plan and a completed Total Maximum Daily Load study (TMDL).

### **Project Deliverables:**

- Installation of 5,615 square feet of bio-filtration islands within the Seven Hills City Hall parking areas.
- Installation of 1,781 square feet of permeable pavers in main pedestrian sidewalk areas around city hall and in the areas leading between city hall and the Seven Hills Police Department offices.

- Installation of a rain water collection cistern underneath the bio-filtration islands that will be constructed as part of this project. The cistern system will include a submersible pump and harvested water will be used to water the landscape at the city main entrance.
- Conduct a project specific public education and outreach program including the production of a project fact sheet, 1 project-specific press release, 1 newsletter article and the development, installation and maintenance of an informational kiosk that will be placed at the main Seven Hills City Hall entranceway.

**Environmental Results:** Successful completion of this project is expected to reduce nonpoint source pollutant loadings into the West Creek, a tributary to the Cuyahoga River.





## 2010 Surface Water Improvement Grant Project Summary

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**Project Number** #10SWIF-CUY-047

**Est. Project Completion** May, 2012

**SubGrantee** Nature Center at Shaker Lakes  
2600 South Park Boulevard  
Cleveland, OH 44120

**Project Contact:** Kari Elsila, Grants Manager  
Nature Center at Shaker Lakes

**Amount Recommended:** \$78,664

**Project Title:** Restoring a Wetland through Establishment of Native Species

**Project Location:** City of Shaker Heights  
**Watershed:** Doan Brook

**Project Summary:** \$78,664 in Surface Water Improvement Fund (SWIF) grant funding is recommended to restore the 5 acre wetland/marsh area located at the Nature Center at Shaker Lakes. Shaker Lakes is an urban park listed on the National Register of Historic Places and has been designated as an Important Bird Area by the National Audubon Society. The wetland area at the Nature Center is the only sizeable vegetated wetland area within the entire Doan Brook watershed. Restoration activities will focus on removing non-native invasive narrow leaved cattail that has overtaken the native species that were found in the wetlands as recently as 1997. Today, the wetland is 99% narrow leaved cattail. As part of this project, narrow leaved cattail, crack willow, bush honeysuckle, European privet, buckthorn and all other non-native species will be eradicated using low percentage herbicide treatments. Plants will be sprayed in late September and those that are too large to be eradicated using chemicals or via hand-pulling will be cut and treated. Following removal of invasive species, restoration will focus on reintroducing native Ohio wetland species. Nature Center staff and volunteers will plant the wetland with a diverse mix of herbaceous wetland species, including shrubs and a canopy assortment of trees. Restoring this wetland will have a significant impact on Doan Brook by improving flood control and water quality to this Lake Erie tributary.

In conjunction with the wetland restoration activity, an ambitious education and outreach component will be conducted including holding project-specific Town Hall discussions, developing wetland restoration curriculum into the center's environmental education classes, field trips and summer camps. Project specific displays and signs will also be posted documenting the progress of restoration activities. Since restoration will occur over a two year period, there will be many opportunities to inform the public and visitors to the center.

This project will be completed in partnership with the Cleveland Museum of Natural History, the Parklands Management Committee and the Black Swamp Bird Observatory.

**Project Deliverables:**

- Restoration of 5 acres of wetlands, including the treatment and/or removal of non-native invasive species and replanting of native wetland species of herbaceous, shrubs and tree species.
- Conduct a comprehensive education and outreach program including the development and distribution of 2 project and wetland-specific fact sheets, conducting 4 public meetings, issue 2 press releases, install 1 inside display related to the wetland restoration, 2 project signs, 2 informational kiosks and conduct 24 project specific tours, include project information in 4 workshops and 2 newsletters.
- To recruit and mobilize 75 volunteers providing 2,200 hours of volunteer native species treatment and wetland restoration planting services.

**Environmental Results:** Successful completion of this project is expected to restore 5 acres of currently degraded wetland areas and to reduce nonpoint source pollutant loadings into Doan Brook, a direct tributary to Lake Erie.



## 2010 Surface Water Improvement Grant Project Summary

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**Project Number** #10SWIF-CUY-067

**Est. Project Completion** December, 2010

**SubGrantee** **Village of Gates Mills**  
1470 Chagrin River Road  
Gates Mills, Ohio 44040

**Project Contact:** **Dave Biggert, Service Director**  
Village of Gates Mills

**Amount Requested:** \$87,525

**Project Title:** **Village of Gates Mills Stormwater Retrofit Demonstration**

**Project Location:** Village of Gates Mills, Cuyahoga County

**Watershed:** Chagrin

**Project Summary:** \$85,525 in Surface Water Improvement Fund (SWIF) grant funding is recommended to install a community scale rain garden and bio-filtration islands within the Gates Mills Village Hall and Service Yard. Additionally, the village will re-direct existing roofwater runoff through the rain garden and more than 100,000 square yards of drainage from the service yard will be directed to the bio-filtration islands. The village will use these practices to demonstrate and promote these forms of stormwater management to area developers and residents throughout the village. The project will be supported by education and outreach activities such as a workshop conducted by the village engineer on how to install rain gardens on private residences, articles within the villages community newsletter and project specific signage that will be installed on the project sites.

This project is being implemented consistent with the recommendations in the state endorsed Chagrin River Watershed Action Plan. It is also generally consistent with findings and recommendations within the Chagrin River Total Maximum Daily Load study completed by Ohio EPA and approved by US EPA.

### **Project Deliverables:**

- Installation of 1,000 square feet of community rain garden immediately adjacent to the Gates Mills Village Hall. All roof water flowing from the village hall will be directed to the rain garden for filtering.
- Installation of 3,500 square feet of bio-filtration island(s) in the Gates Mills service yard on the Village Hall complex. More than 100,000 square feet of stormwater surface runoff will be directed to the bio-filtration island(s) rather than existing storm sewers for filtration. The island(s) will be installed without an under-drain and thus operate much like a sand filter to passively treat stormwater.

- Conduct education and outreach activities including the development and installation of 2 project specific signs, distribution of 1 project-specific press release, creation of a project-specific fact sheet, 1 newsletter articles and 1 workshop entitled “How to Install a Rain Garden”. One presentation will also be made to the Board of the Chagrin River Watershed Partners.

**Environmental Results:** Successful completion of this project will passively treat more than 100,000 square feet of stormwater drainage and demonstrate alternative methods of stormwater management for area developers and homeowners.

### Detailed Project Work Plan

Continued from previous pages.

Map 2. Aerial of project area with areas marked for bioretention and rain garden.

VILLAGE OF GATES MILLS  
SWIF APPLICATION  
SERVICE YARD BIO RETENTION



Scale: 1" = 50'



THE CW CONSULTING GROUP  
Civil & Sanitary Engineers  
11111  
700 East 17th Street, 200  
Cleveland, Ohio 44114-4567  
Phone: (216) 709-3600 FAX: (216) 709-3100  
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VILLAGE OF GATES MILLS  
SWIF APPLICATION  
VILLAGE HALL RAIN GARDEN



Scale: 1" = 50'



The C.W. Coulter Company  
Civil & Environmental Engineers  
Civil Engineers  
785 State St., Suite 205  
Columbus, Ohio 43215-1104  
Phone: 614.221.2000 Fax: 614.221.2008  
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## 2010 Surface Water Improvement Grant Project Summary

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**Project Number** #10SWIF-CUY-034

**Est. Project Completion** November 2010

**SubGrantee** **City of Mayfield Heights**  
6154 Mayfield Road  
Mayfield Heights, Ohio 44124

**Project Contact:** **David McCallops, City Engineer**  
City of Mayfield Heights

**Amount Recommended:** \$231,900

**Project Title:** **Mayfield Heights Green Infrastructure Demonstration**

**Project Location:** City of Mayfield Heights, Cuyahoga County

**Watershed:** Chagrin River

**Project Summary:** \$231,900 in Surface Water Improvement Fund (SWIF) grant funding is recommended to implement a green infrastructure demonstration project on the grounds of the city of Mayfield Heights City Hall. The project will include the installation of 415 square feet of rain gardens planted at the front entrance of the city hall building, 2,215 square feet of permeable concrete parking bays and 3,797 square of forested parking areas including shade tree bumper islands, permeable concrete strips and bioswales end islands functioning as canopy, understory and soil/duff layers to capture rainfall and parking lot runoff.. Additionally, the project will include education and outreach designed to inform the public on cost effective, environmentally beneficial solutions to relieve flooding, and to enhance water quality.

This project is being implemented consistent with the recommendations to retrofit antiquated stormwater practices with green practices in the state endorsed Chagrin River Watershed Action Plan. It is also generally consistent with findings and recommendations within the Chagrin River Total Maximum Daily Load study completed by Ohio EPA and approved by US EPA.

### **Project Deliverables:**

- Installation of 415 square feet of community scale rain garden demonstration areas at the main entrance to the city of Mayfield Heights City Hall building. This building is an ideal demonstration site, receiving more than 175 visitors per day.
- Installation of 2,215 square of permeable concrete parking bays. These bays will replace existing impervious asphalt bays and are designed to allow stormwater to infiltrate, thereby capturing nonpoint source pollutants from surface water runoff. These parking bays will include an under drain and will be identified with permanently displayed interpretive signage.

- Install 1,475 square of vegetated end island bio-swales (12 shade tree bumper islands total) planted with understory and shade trees to provide filtering and cooling of surface stormwater flows. These shall also include the installation 1,620 square feet of permeable concrete strip.
- Conduct public education and outreach activities consisting of 2 public meetings, 2 project specific news releases, 1 in-construction project sign and 3 permanent interpretive signs, 20 post-construction tours, 3 field days, printing and distribution of 100 rain garden manuals and other activities.

**Environmental Results:** Successful completion of this project will improve water quality by reducing nonpoint source pollutant loadings, reducing runoff through infiltration, and reduce downstream erosion and sediment deposition.



**ABOVE--**City Hall Entrance Rain Gardens Before (L) and After (R)  
**BELOW—**City Hall Forested Parking Lot Before (L) and After (R)



**ABOVE—**Pervious Pavement Installation Before (L) and After (R)



## 2010 Surface Water Improvement Grant Project Summary

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**Project Number** #10SWIF-CUY-049

**Est. Project Completion** October, 2010

**SubGrantee** **City of North Olmsted**  
5200 Dover Center Road  
North Olmsted, Ohio 44070

**Project Contact:** **Kimberly Wenger, Planning Director**  
City of North Olmsted

**Amount Recommended:** \$196,028

**Project Title:** **North Olmsted City Hall Parking Lot Stormwater BMPs**

**Project Location:** North Olmsted, Cuyahoga County

**Watershed:** Rocky River

**Project Summary:** \$196,028 in Surface Water Improvement Fund (SWIF) grant funding is recommended to retrofit the existing parking lot at North Olmsted City Hall with permeable pavers and bio-retention swale. The system of permeable pavers and bio-retention swale will all stormwater to permeate the ground surface rather than running directly into area storm sewers. Runoff will be filtered by the aggregate base material and bio-retention soil and stored for a duration of time allowing it to slowly infiltrate the ground or to be released (during heavy flow periods) at a controlled rate into the city's storm sewers. The project site is currently 100% impermeable with continuous asphalt pavement and an integral concrete curb and walk median. The Schematic Design Phase for this project has been completed consisting of site assessment, conceptual layout and design and an estimate of probable costs. In addition to the permeable pavers and bio-retention swale, the project will include education and outreach activities designed to inform the public about the project and the importance of effective stormwater management.

This project is being implemented consistent with the recommendations in the state endorsed Rocky River Watershed Action Plan. It is also generally consistent with findings and recommendations within the Rocky River Total Maximum Daily Load study completed by Ohio EPA and approved by US EPA.

### **Project Deliverables:**

- Installation of 6,700 square feet of permeable pavement in the parking areas immediately adjacent to the city of North Olmsted's City Hall and municipal complex.
- Installation of 1,281 square feet of bio-filtration island(s) in the North Olmsted City Hall and municipal complex parking areas.

- Conduct education and outreach activities including the development and distribution of 1 project-specific fact sheet, establishment and maintenance of a website informing the community about the status of the project, developing a project-specific display that will be installed in the vicinity of the project recognizing the partnerships who made the project possible, installation of 1 project specific sign, and a student workshop that will be conducted by the city engineer.

**Environmental Results:** Successful completion of this project will eliminate more than 6,700 square feet of currently impervious surface and provided enhanced filtering capacity of stormwater surface runoff thereby reducing nonpoint source pollution loadings to the Rocky River.



## 2010 Surface Water Improvement Grant Project Summary

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**Project Number** #10SWIF-CUY-102  
**Est. Project Completion** October, 2010

**SubGrantee** **City of Cleveland Heights**  
40 Severance Circle  
Cleveland Heights, OH 44118

**Project Contact:** **Richard Wong, Planning Director**  
City of Cleveland Heights

**Amount Recommended** \$232,074

**Project Title:** **Cumberland Park – Parking Lot Improvements**  
**Project Location:** City of Cleveland Hts., Cuyahoga County  
**Watershed:** Chagrin

**Project Summary:** \$232,074 in Surface Water Improvement Fund (SWIF) grant funding is recommended to install innovative stormwater management practices and control runoff from an existing impervious parking lot within Cumberland Park. The project will result in the installation of pervious pavers combined a re-engineering of drainage to a series of bio-retention islands that will be installed. Cumberland Park is a heavily used urban recreation area; therefore, implementation of stormwater demonstration practices will serve to provide an important educational opportunity for city residents and park users. This project proposes to reduce the impervious parking area (which is currently 53,700 square feet) by 25% through the addition of pervious pavement. Additionally, bio-retention islands will be installed in the parking lot and all surface drainage redirected to these islands. General water quality benefits will include the reduction of runoff to Dugaway Creek, as well as reductions in total suspended solids, organic compounds, bacteria and nutrients by promoting settling, absorption and increased nutrient assimilation.

This project is being implemented consistent with the recommendations in the state endorsed Chagrin River Watershed Action Plan. It is also generally consistent with findings and recommendations within the Chagrin River Total Maximum Daily Load study completed by Ohio EPA and approved by US EPA.

### **Project Deliverables:**

- Installation of 250 square feet of pervious pavers and reduction of existing impervious parking lot area from 53,700 square feet to approximately 40,000 square feet.
- Installation of 5,900 square feet of bio-filtration islands in the center of the parking lots with drainage in the areas to be re-directed to these filtration islands.

- Conduct a comprehensive education and outreach program including the development and installation of 3 project specific signs, distribution of 1 project-specific press release, creation of a website highlighting the status and features of the project, 2 newsletter articles and 1 field trip for area high school nature study program.

**Environmental Results:** Successful completion of this project is expected to considerably reduce nonpoint pollution loadings into Dugaway Creek and to more effectively manage and filter stormwater runoff thereby reducing water temperature. This project also will serve as an effective demonstration of various alternative stormwater management practices.





## 2010 Surface Water Improvement Grant Project Summary

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**Project Number** #10GLRI-CUY-082

**Est. Project Completion** October 31, 2010

**SubGrantee** Village of Glenwillow  
29555 Pettibone Road  
Glenwill, Ohio 44139

**Project Contact:** Katherine Holmok, Village Landscape Architect  
Village of Glenwillow

**Amount Recommended:** \$63,050

**Project Title:** Glenwillow Green Infrastructure Demonstration

**Project Location:** Village of Glenwillow, Cuyahoga County

**Watershed:** Tinker's Creek

**Project Summary:** \$63,050 in Surface Water Improvement Fund (SWIF) grant funding is recommended to install 1,000 square feet of vegetated bio-filtration islands in the parking lot of a village owned park as well as to restore .26 acres of riparian area immediately adjacent to Tinker's Creek by installing stream bank live stake plantings designed to improve riparian habitat, stabilize the bank and reduce erosion and sediment loadings into Tinker's Creek. This demonstration project will be a hands-on learning opportunity for park volunteers and members of village council, since both groups will be enlisted to assist with the plantings associated with the bio-filtration islands as part of a Bioswale Volunteer Field Day. Additionally, following completion of construction and planting, the village will install a permanent interpretive sign at each island. These panels will explain how the vegetated bioswales were installed as well as their value to improving water quality within the creek.

This project is being implemented consistent with the recommendations in the state endorsed Tinker's Creek Watershed Action Plan. It is also generally consistent with findings and recommendations within the Tinker's Creek Total Maximum Daily Load study completed by Ohio EPA and approved by US EPA in 2003.

### **Project Deliverables:**

- Installation of 1,000 square feet of vegetated bio-filtration islands in parking areas within a village owned park that is immediately adjacent to Tinker's Creek. These bio-filtration islands will be constructed by a contractor, however the planting of these practices will be conducted by park volunteers and members of village council as part of a Bioswales Volunteer Field Day.

- Installation of vegetated live stake plantings on .26 acres of riparian areas immediately adjacent to Tinker's Creek. Plantings will be designed to provide shade for the creek and to improve riparian habitat and stabilize currently eroding areas of the streambanks.
- Conduct education and outreach activities including the development and installation of interpretive signs at each of the bio-filtration islands, creation and distribution of a project-specific fact sheet, and the conduct of a Volunteer Field Day for park volunteers and members of village council.

**Environmental Results:** Successful completion of this project will reduce nonpoint source pollutant loadings to Tinkers Creek and restore .26 acres of riparian habitat.



## 2010 Surface Water Improvement Grant Project Summary

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**Project Number** #10GLRI-CUY-068

**Est. Project Completion** June, 2011

**SubGrantee** Village of Hunting Valley  
38251 Fairmount Boulevard  
Chagrin Falls, OH 44022

**Project Contact:** Don Cunningham, Building Official/Service Director  
Village of Hunting Valley

**Amount Recommended:** \$137,500

**Project Title:** Green Stabilization of Riparian Area along the Chagrin River in Hunting Valley

**Project Location:** Hunting Valley, Cuyahoga County  
**Watershed:** Chagrin River

**Project Summary:** \$137,500 in Surface Water Improvement Fund (SWIF) grant funding is recommended to install vegetative rip-rap to restore vegetation and to stabilize 400 linear feet of severely eroding streambank on the Chagrin River in Hunting Valley, Ohio. The project will use a green practice, vegetative rip-rap in an area that has been a perennial erosion problem. The project site is highly visible and should provide an excellent opportunity to serve as a demonstration of this particular type of installation. The Chagrin River Watershed Partners, the local watershed group has recommended this practice to a number of landowners as an alternative to hard engineering approaches such as rip-rap and gabion baskets. Having an example installed within the river valley will provide valuable opportunities to demonstrate green practices to landowners.

In addition to the streambank stabilization activity, this project will also conduct at least one workshop for village residents on "Green Stabilization Practices" and a variety of other education and outreach activities. This project is also being implemented consistent with the recommendations in the state endorsed Chagrin River Watershed Action Plan. It is also generally consistent with findings and recommendations within the Chagrin River Total Maximum Daily Load study completed by Ohio EPA and approved by US EPA.

### **Project Deliverables:**

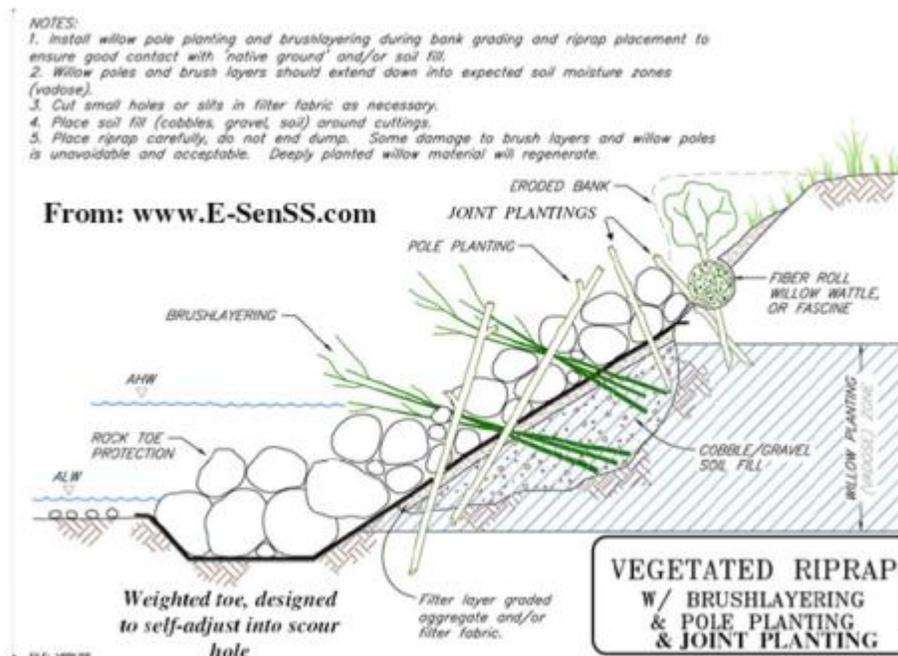
- Restoration of approximately 400 linear feet of currently eroding streambank using bio-engineering (green) vegetative rip-rap practices.
- Planting and restoring 3/10ths of an acre with native species of trees and shrubs following stabilization of the streambank.

- Conduct a comprehensive education and outreach program including the development and distribution of 1 project-specific fact sheet, issuing 1 press release, conducting one streambank stabilization workshop for area landowners, and preparing and publishing at least one project-specific article for the Chagrin River Watershed Partners newsletter.

**Environmental Results:** Successful completion of this project is expected to considerably reduce sediment loadings into the Chagrin State Scenic River and to stabilize 400 linear feet of severely eroding stream bank using “green” stabilization and engineering practices.



Current Conditions at project site (above) and conceptual design drawing for restoration and stabilization of this site (below).





## 2010 Surface Water Improvement Grant Project Summary

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**Project Number** #10GLRI-CUY-123

**Est. Project Completion** April 2012

**SubGrantee** Cuyahoga County Soil & Water Conservation District  
6100 West Canal Road  
Valley View, Ohio 44125-3330

**Project Contact:** Jared Bartley, Rocky River Watershed Coordinator  
Cuyahoga County SWCD

**Amount Recommended:** \$147,270

**Project Title:** Baldwin Creek Dam Removal and Habitat Enhancement

**Project Location:** City of Berea, Cuyahoga County

**Watershed:** Baldwin Creek—Rocky River

**Project Summary:** \$147,270 in Surface Water Improvement Fund (SWIF) grant funding is recommended to remove three small lowhead dams on Baldwin Creek within the city of Berea. The project sites are located within property owned by the Cleveland Metroparks System and/or by the city of Berea. One intact lowhead dam and two smaller degraded structures impede fish passage and degrade habitat throughout the stream segment. Activities associated with this project are designed to restore habitat conditions within this segment of Baldwin Creek to its designated warmwater habitat aquatic life use and to restore nearly a mile of natural flow conditions within the stream (4,750 linear feet). The TMDL for Rocky River approved by US EPA in 2001 identifies that "*habitat restoration the stream (Baldwin Creek) could have a high degree of success ... if implemented in conjunction with stream channel barrier removal and enhancements*". This project is being implemented consistent with those recommendations.

Outreach activities will be conducted by the Cuyahoga County SWCD with assistance from the city of Berea and will include public meetings, newsletter articles, press releases and tours of the completed project sites. Rocky River, of which Baldwin Creek is a tributary has both a state endorsed watershed action plan and an approved Total Maximum Daily Load Study.

### **Project Deliverables:**

- Removal of three small lowhead dam structures and restoration of 4,750 linear feet of natural flow conditions in Baldwin Creek.
- Installation of 3 fish passage and in-stream structures including grade control structures such as a step/pool and/or cross vane at points downstream from the current dam structures.

- Conduct education and outreach activities consisting of 1 project specific fact sheet, 3 public meetings, 2 press releases, 2 tours, 5 project specific newsletter articles, and the maintenance of 1 project specific webpage.

**Environmental Results:** Successful completion of this project will restore 4,750 linear feet of unimpeded natural flow conditions within the lower reaches of Baldwin Creek and will enhance in-stream habitat conditions and improve QHEI scores for the segment to attainment of WWH standards



Above--3 lowhead dam structures to be removed by this project.



## 2010 Surface Water Improvement Grant Project Summary

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**Project Number** #10GLRI-CUY-039

**Est. Project Completion** May 2011

**SubGrantee** **City of Cleveland, Dept. of Public Utilities**  
12302 Kirby Avenue  
Cleveland, Ohio 44108

**Project Contact:** **Rachid Zoghaib, Deputy Commissioner**  
City of Cleveland Department of Public Utilities

**Amount Recommended:** \$260,158

**Project Title:** **City of Cleveland WPC Building Stormwater Management Improvements**

**Project Location:** City of Cleveland, Cuyahoga County  
**Watershed:** Cuyahoga River

**Project Summary:** \$60,158 in Surface Water Improvement Fund (SWIF) grant funding is recommended to incorporate a variety of green stormwater management practices at the city's Water Pollution Control facility. Planned activities include replacing 11,200 square feet of currently impervious asphalt with permeable asphalt, constructing two rain gardens totaling 480 square feet and two bioswales, and to install a water reuse system to collect, store, and reuse storm water from a portion of the roof of the maintenance warehouse building. Upon completion of all stormwater demonstration practices, stormwater flow from more than 60,000 square feet of drainage area will be effectively eliminated from existing storm sewers and treated in green BMPs. In addition to the above listed practices, education and outreach activities consisting of news releases, formal and informal tours and school presentations, and project signs will be incorporated into each installation site.

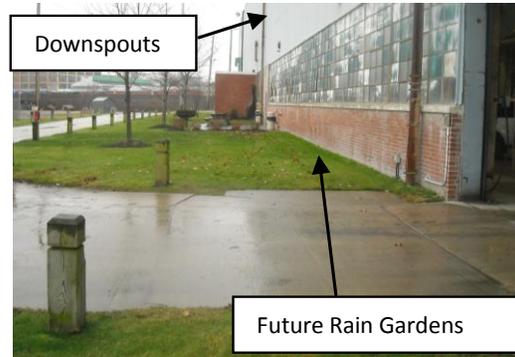
This project is being implemented consistent with the findings and recommendations within the Lower Cuyahoga River Total Maximum Daily Load study completed by Ohio EPA and approved by US EPA.

### **Project Deliverables:**

- Installation of at least 11,200 square feet of pervious pavement in and around the publicly accessible areas of the city of Cleveland's Water Pollution Control Center.
- The planning, design and installation of one rainwater re-use system that will capture roof runoff from the building and reuse the captured water for toilet facilities in the building, vehicle washing station and/or the existing irrigation system for the buildings landscaping and lawn.

- Construction of two rain gardens totaling 480 square feet designed to treat drainage from 17,400 square feet of the facility's roof. Rain gardens will contain plants native to the Cleveland area. Integration of the rain gardens will be done in a way that is both functional and aesthetically pleasing.
- Installation of 130 square feet of vegetated bio-swales designed to treat runoff from 9,950 square feet of parking lot drainage. Currently this runoff flows across the grassy areas where the bio-swales will be installed before dumping into the storm system on a nearby street. Essentially, this drainage will be eliminated as a result of infiltration and treatment that will occur as a result of the bio-swales.
- Conduct public education and outreach activities consisting of 1 project specific news release to local media outlets, permanent project specific interpretive signs, formal and informal public and school tours of the project sites and the production and distribution of 1 project specific fact sheet and/or brochure.

**Environmental Results:** Successful completion of this project will improve water quality by removing and treating through infiltration the surface runoff from more than 60,000 square feet of impervious parking areas and roof surfaces. Additionally, stormwater flows will be reduced as a result of the rainwater harvesting and reuse system that will be installed as a result of this project.





## 2010 Surface Water Improvement Grant Project Summary

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**Project Number** #10GLRI-CUY-075

**Est. Project Completion** September 2011

**SubGrantee** **ParkWorks**  
1422 Euclid Avenue, Suite 733  
Cleveland, Ohio 44115

**Project Contact:** **Justin Glanville, Project Director**  
ParkWorks

**Amount Recommended:** \$161,659

**Project Title:** **Cleveland's Lake Link Greenway Bioswale  
Demonstration Project: Innovation in Action**

**Project Location:** City of Cleveland, Cuyahoga County  
**Watershed:** Cuyahoga River

**Project Summary:** \$161,659 in Surface Water Improvement Fund (SWIF) grant funding is recommended to construct a 10 foot wide by 480 linear feet long (4,800 square feet) vegetated bioswale adjacent to a future bike and hiking trail near the mouth of the Cuyahoga River and Lake Erie. Stormwater runoff will be redirected to the vegetated bioswale rather than discharging as it does currently into a combined sewer overflow (CSO). The bioswales will consist of three feet of bio-filtrating soil mix covered with native riparian plant species. Success for the project will be evaluated by determining the volume of stormwater retained in the bioswale during significant storm events and by sampling the quality of water at the influent into the bioswales and the effluent from the bioswale. In addition to the above ParkWorks will conduct education and outreach activities consisting of public meetings, media events, installing an informational kiosk and display, preparing a project fact sheet, conducting tours and field days and conducting a workshop for engineers and water quality professionals.

This project is being implemented consistent with the findings and recommendations within the Lower Cuyahoga River Total Maximum Daily Load study completed by Ohio EPA and approved by US EPA.

### **Project Deliverables:**

- Installation of at least 4,800 square feet of vegetated bioswale consisting of 3 feet of bio-infiltrating soil mix planted with native riparian vegetation along a hiking and bike path near the mouth of the Cuyahoga River.
- Installation of 250 linear feet of stormwater diversion structures and 2 stormwater diversion structures to re-direct influent into the constructed bioswale and to direct effluent from the bioswale.

- Conduct public education and outreach activities consisting of the following:
  - 4 project-specific fact sheets
  - 6 public meetings
  - 7 press releases
  - 1 project-specific website
  - Construction of 1 information kiosk and 1 display highlighting the features of the project and benefits of effective stormwater management.
  - Conducting 5 public and local official tours of the project site
  - Conduct 4 field days for local area school groups
  - Conduct 1 workshop targeted to area engineers and water quality professionals
  - 4 project-specific newsletter articles published in the Park Works newsletter.

**Environmental Results:** Successful completion of this project will improve water quality by redirecting currently untreated stormwater from nearby combined sewer overflows. Load reduction estimates will be calculated upon successful funding.