

Gills Creek Watershed Projects Archive

Projects listed here have been completed, or are currently awaiting action by another entity.

Environmental Justice Small Grant

The Gills Creek Watershed Association was awarded an Environmental Justice Small Grant from the U.S. Environmental Protection Agency (EPA) to sample fish for mercury in the lower watershed and to assess exposure levels to those communities who consume fish from the creek. We are also conducting interviews with fisherman to understand their consumption of fish from Gills Creek. The GCWA partnered with the University of South Carolina-Aiken to do the project and generate data that could be shared with the local community. Once the assessment is done, we will conduct educational outreach in those underserved communities in Gills Creek Watershed.

There was a public meeting to present the results to those communities (residents and businesses) in the vicinity of the lower Gills Creek on Thursday, June 22nd from 6-7:30pm at the Bible Way Church of Atlas Road's Wellness Center (2508 Atlas Rd, Columbia, SC 20209). Representatives from the GCWA were on-hand to present the data, explain the results, and provide further information about what it means for the community.

A video about the project is available on the Gills Creek Watershed YouTube channel, linked through the GCWA website.

The final report is available on the website under "Reports and Planning Documents/Other Reports"

City of Columbia Consent Decree and Supplemental Environmental Project

The Department of Justice, U.S. Environmental Protection Agency (EPA), and South Carolina Department of Health and Environmental Control (DHEC) imposed a consent decree on the City of Columbia to resolve violations of the Clean Water Act (CWA), including unauthorized overflows of untreated raw sewage, in 2013. Columbia has agreed to undertake a thorough assessment of, and implement extensive improvements to, its sanitary sewer system at an estimated cost of \$750 million. As part of the agreement, the City will complete Supplemental Environmental Projects (SEP), implementing stream cleanup, flooding, and/or water quality

improvement projects in Gills Creek, Rocky Branch and Smith Branch.

The GCWA helped structure the Supplemental Environmental Project (SEP) portion of the EPA/City of Columbia consent decree. A portion of SEP funds will be used for six on-the-ground restoration projects and stormwater BMPs along Gills Creek below Rosewood Drive. During 2014-15 GCWA staff and volunteers helped identify specific site and served on the selection committee for the design and construction firm to complete the SEP projects. GCWA has worked closely with the selected firm, Kleinschmidt Associates, in the planning and design phase of the project.

Unfortunately, the City was unable to come to a contractual agreement with Kleinschmidt, and the projects were reassigned to the City's on-call contractors Thomas & Hutton in December 2015. The City will execute most of the construction. The decision was also partly based on meeting the consent decree's two year deadline (May 31, 2016) for completion of this portion.

The projects are:

- the corner of Gills Creek Parkway and Pelham Dr (install a water quality structure)
- pocket wetland at the end of Hampton Leas Lane (the area drains about 27 acres)
- water quality structure at Tallpines Circle
- erosion control measures at two locations on the creek side of Gills Creek Parkway
- pocket wetland/enhanced bioswale at the end of Edmund Dr (36 acres drainage)
- water quality structure at Hampton Trace Lane

Construction has been completed. Several of the installations can be seen along Gills Creek Parkway.

The City of Columbia's Consent Decree and Supplemental Environmental Project Appendix are available upon request.

Decker Center Green Infrastructure

GCWA has been involved as a stakeholder in the Decker Center Renovation project since summer 2014. That area is of great concern as stormwater from the Decker corridor is the primary contributor to the sediment and trash that flows into Jackson Creek, Cary Lake, Spring Lake and to Gills Creek.

From The Boudreaux Group's project description: "A fundamental part of this project was reducing the storm water runoff impact from the existing site onto the adjacent properties and waterways. The existing parking lot was asphalt with minimal landscaping and water runoff control measures. The design team worked in conjunction with Richland County Public Works

Division and local community organizations to incorporate storm water quality control measures into the site design. These measures include porous asphalt paving, water quality units, a bioswale and an increased amount of landscaping throughout the site that exceeds Richland County's minimum landscaping standards. A rainwater catchment system will also be utilized to collect rainwater from the roof of the building to supplement the water used for irrigation. ”

Richland School District 2 Jackson Creek Elementary School

When GCWA was informed of the District's plan to build a new elementary school at 7150 Trenholm Rd. in the fall of 2013, a meeting was arranged with the school board. Of immediate concern was possible destruction of wetlands and the possibility of construction sediment making its way to Cary Lake. A sediment removal project was conducted in 2010 at Cary Lake where sediment continues to accumulate.

This parcel of land had been looked at as a possible mitigation bank site as it is located between Little Jackson Creek and Jackson Creek just above their confluence, contains wetlands, and is just upstream of Cary Lake. The County had also presented plans for a trail paralleling Jackson Creek. The County had been unable to come to an agreement with the landowner at the time.

After review of the preliminary plans, GCWA made several recommendations regarding aspects of the project including construction footprint, wetlands preservation, and stormwater controls. Sediment runoff from the site would also be monitored.

The final plan includes low impact development, bioretention swales, pervious pavements, enhancing native plant communities, and preserving a portion of the wetlands on site to be used for an outdoor learning environment.

The GCWA board of directors received a presentation in February 2015. In June 2016, the board was given a tour of the site and an update on construction. The construction had begun before the 2015 Flood, but the sediment retention measures controlled run off from the site.

Lake Katharine Sediment Removal

Lake Katharine has been refilled after being drained and sediment removed by excavating about 3 ft below full pool and dewatering in situ. The area at the head of the lake where sediment enters was excavated out 2 or so ft deeper to allow for a longer interval before problems start to occur. The estimated time to completion of sediment removal was 45 days; however, that time

frame was delayed due to rain and possible tampering with the flashboards on the dam.

A new technology will be used to map the contour of the lake before and after the project to establish a baseline which will allow the sources of sediment to be identified.

The dam needed minor repairs and the DHEC permit requires a number of trees be removed from the west end of the heel of the dam.

Lake Katharine had sediment removal last in 1991 after the construction of I-77 resulted in the deposition of large amounts of sediment in the lake.

Little Lake Katharine is not having sediment removal as they do not have a permit or a plan at this time.

September 2017

Sediment removal is complete and the lake refilled.

Pen Branch Re-armoring Project

The City of Columbia is currently working with a consultant, Brown and Caldwell, to study and re-armor Pen Branch near Trenholm Road. This section of Pen Branch has been extensively hardened and channelized in the past requiring expensive periodic maintenance. A breach in one of the creek's walls is allowing water to get behind the armoring and carry sediment downstream into Little Lake Katharine.

This type of stream project using channelization and armoring, and permitting of structures in the flood way would not be allowed now. GCWA has suggested that future maintenance of the armored channel could be reduced by including projects upstream and along the creek to reduce stormwater runoff from streets and parking lots, in particular, in the Richland Mall area and above Forest Drive. The best solution would be to restore the creek to a more natural condition with flood benches and a suitable buffer.

This project has also been delayed by the 2015 Flood. The City has applied for and received project assistance from the Natural Resources Conservation Service (NRCS) for debris and sediment removal in Pen Branch from Woodlake Drive to Little Lake Katharine which will likely be done prior to the re-armoring.

Jim Hamilton - Owens Field Taxiway Improvement/Little Jackson Creek Mitigation Project

The Jim Hamilton-Owens Field Airport is in the process of upgrading its facility and extending the taxiway. As a result, approximately 750 linear feet of Devils Ditch will be put in a culvert and paved over by the new taxiway.

Because of the alteration to Devils Ditch, the Airport Commission must mitigate by restoring a different section of stream within the watershed. Per FAA regulation, the mitigation site must be at least 15,000 feet from the airport so as not to attract waterfowl.

GCWA has been working with Richland County and the Airport's consultants to identify potential mitigation sites within Gills Creek Watershed and an area of Little Jackson Creek near Spring Lake has been chosen.

October 27, 2015

Work will be starting soon on the area around Owens Field Airport at Devils Ditch and Plowden Road. Initial activity will include the installation of sediment & erosion control BMPs, mechanical (tracked excavator) clearing of some of the areas on the Plowden Road property, and some hand clearing of the airport section of "Devil's Ditch" beginning on the airport side of the ditch. The culvert installation has been delayed until additional funds become available.

July 2016

Work has begun on the mitigation part of the project in the Spring Valley area, restoring wetlands and allowing Little Jackson Creek to return to a more natural flow. Work is also being done on the "upditch" which is an artificial drainage ditch paralleling Two Notch Road to the west of the railroad. This work will reduce the impact of stormwater that flows from properties to the east of Two Notch, under the road and railroad into the ditch, and then to Little Jackson Creek.

November 2016

The Little Jackson Creek and Upditch project is now complete except for adding vegetation. Over 1,500 feet of the creek and nearly nine acres of surrounding wetlands have been successfully restored. The result will be reduced flooding and sediment in the watershed downstream. In fact, WK Dickson recently received an Engineering Excellence Award for the Little Jackson Creek Mitigation Project from the American Council of Engineering Companies of North Carolina, where the consulting firm is headquartered.

The Jim Hamilton-Owens Field portion of the project is also finished, although the scope of the project was reduced. The taxiway will not be modified and Devils Ditch will not have a culvert installed. The creek and wetlands along Plowden have been cleared of trees to establish air space in accordance with FAA regulations.

The complexities of the project and its notable positive effects have garnered the attention of professional engineers and conservationists. WK Dickson recently received an Engineering Excellence Award for the Little Jackson Creek Mitigation Project from the American Council of Engineering Companies of North Carolina, where the consulting firm is headquartered.

For more information, see

<http://www.richlandcountysc.gov/Home/News/ArtMID/479/ArticleID/1147/Creek-Restoration-Project-in-Northeast-Richland-County-Wins-Engineering-Award>

Forest Acres Buffer Ordinance

GCWA worked with Forest Acres to develop a Stormwater Buffer Ordinance that applies to new development and redevelopment that qualifies. It requires 50ft buffers and aligns with Richland County's buffer ordinance. For more information see <https://www.forestacres.net/city-government/planning-zoning>

Crosshill Market Educational Kiosk



An educational kiosk explaining how stormwater detention structures help intercept stormwater and allow it to soak naturally into the ground was installed in the back parking lot of the Crosshill Market in cooperation with Edens. This kiosk is located overlooking a large detention pond serving the Crosshill Market property which is one of the stormwater control structures on the property. Funding was through a grant from the The Richland County Conservation Commission.

Gills Creek Road Crossing Signs

The Richland County Soil and Water Conservation District funded signage identifying Gills Creek and the watershed located on roads crossing Gills Creek, and on the watershed boundary on major roads. The signs help to raise awareness of the location of Gills Creek and the watershed. Other locations for signage are currently under consideration.

Gills Creek Parkway Resurfacing Project

The City of Columbia resurfaced Gills Creek Parkway off of Rosewood Drive. In addition to the resurfacing, a sidewalk is being constructed on the east side of the road adjacent to the apartment complexes. GCWA worked closely with the City to ensure there is room on the creek side (west side) of the road for a future greenway.

USC Geography Seminar Project

Dr. Sarah Battersby, Assistant Professor in the Department of Geography, contacted the Gills Creek Watershed Association in 2012 suggesting the Gills Creek Watershed would be a good study subject for her Geography 495: Undergraduate Senior Seminar. The primary deliverable is a "Story Map" demonstrating data collection and/or spatial analysis results in a way that clearly communicates to the public. In addition to the story map, the student team produced a brochure and poster. The final requirement was a live team report supported by an electronic slide presentation.

Gills Creek Watershed Research Initiative

The GCWA received a grant from the Richland County Conservation Commission to create a partnership with the University of South Carolina to conduct water quality sampling throughout the watershed. The GCWA Program Coordinator worked with Dr. Daniel Tufford, Biological Sciences, and ten undergraduate students to collect water samples at thirty sites in Gills Creek

and its tributaries. The samples were analyzed for fecal coliform, ammonia, and BOD5. The purpose of this research was to isolate the stream reaches that were likely pollutant sources. This information is relevant in the context of addressing the Total Maximum Daily Load issued by the Department of Health and Environmental Control for elevated fecal coliform and low concentrations of dissolved oxygen in the watershed. The research was conducted during February and April 2010.

Gills Creek Mitigation Bank Assessment

Funded by a grant from the Richland County Conservation Commission the Dennis Corporation created an assessment document concerning potential mitigation banking sites in the Gills Creek Watershed. The document was completed in December 2011.

Cary's Lake Water Quality Improvement Project



Click on the image for a larger view.

The Cary's Lake Water Quality Improvement Project was implemented by Richland County Stormwater Division in association with GCWA to address water quality concerns, particularly sedimentation, and trash and debris in Cary's Lake. Sediment was removed from two areas on the lake. The first area was the outfall area of Jackson Creek, where one to five feet of sediment (approximately 21,000 cubic yards) was removed from eight acres in the upper reach of the lake.

The second area was the outfall from Ashworth Place Pond (at Cary Lane) where one to five feet was excavated from a three acre area, totaling about 7,000 cubic yards. Work was completed in March 2011.

The GCWA and the Cary's Lake HOA partnered to create a video documenting the project, available on the GCWA youtube channel.

Arcadia Lakes Raingarden

The Tree Of Life Green Team, the City of Arcadia Lakes, and the Gills Creek Watershed Association partnered to build a raingarden at the Tree of Life Congregation at 6719 Trenholm Road across from Cary's Lake. This raingarden captures stormwater from the parking lot before entering Cary's Lake. It also serves as an educational tool and demonstration project for the community. Anyone is welcome to visit the raingarden.



Note: GCWA may have played a minimal role in the following projects, but they can affect Gills Creek, so are included here.

Shandon Source Reduction Project

The City of Columbia is working on reducing flooding in the Shandon neighborhood through stormwater BMPs aimed at capturing and storing water before it enters storm drains, ditches, streams, and creeks. Portions of Wilmot and Maple streets will feature porous asphalt and underground stormwater storage. This area drains to Devils Ditch and ultimately Gills Creek. Any source reduction should help alleviate problems downstream. The construction portion of this project is currently out to bid. Construction is expected to take about five months. For more information about the completed project see *September 30, 2016 - Local - The State*

Pilot flood-control program in Shandon has limited success

By [Clif LeBlanc](#)

"COLUMBIA, SC - The cost and trouble of an innovative, nearly \$1 million flood-control effort on a couple of blocks in some of the most flood-prone parts of Shandon has fallen short of expectations.

'The Shandon project has come in a lot higher than we expected,' assistant city manager Missy Gentry recently told City Council. Initial costs forced the city to slash the size of the project by two-thirds, said a city engineer who oversaw the project."

[Read more here...](https://www.thestate.com/news/local/article105297881.html) <https://www.thestate.com/news/local/article105297881.html>

Rosewood Park Parking Lot Pervious Pavement and Rain Garden

The City of Columbia has installed pervious pavement and a rain garden in Rosewood Park. This project should result in a reduction of stormwater flow into Devil's Ditch and Lower Gills Creek.

Hopes for the future...

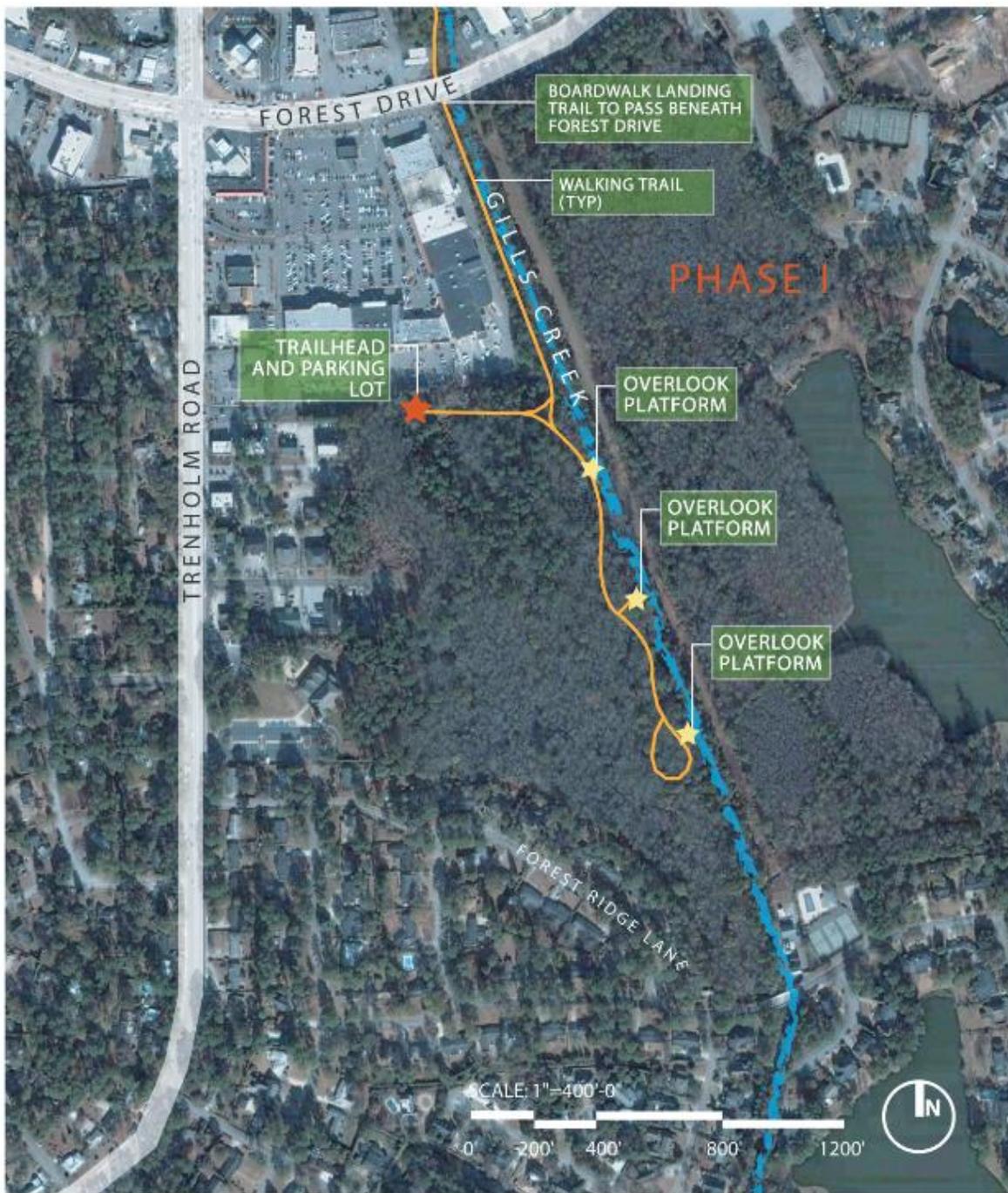
Intertape Polymer Group Culvert Project

The Gills Creek Watershed Association partnered with the Intertape Polymer Group to help restore fish habitat and recreational access in Gills Creek by adding a large bottomless culvert to the IPG road crossing on Gills Creek off South Beltline Blvd. GCWA applied for a grant from American Rivers and the National Oceanic and Atmospheric Administration (NOAA) in 2012 but failed to receive the award. GCWA and IPG are continuing their efforts to fund this project.

Intertape Polymer Group has closed the Beltline facility earlier than planned as a result of the 2015 flood. Operations relocated to a new Blythewood facility. IPG is proceeding with plans for decommissioning the Beltline plant, and GCWA will continue to pursue opportunities for partnerships for the section of Gills Creek which runs through the property.

Forest Acres Walking Trail

The City of Forest Acres is working to develop the first public access point on Gills Creek. The location of the trail has been approved by City Council and now engineering drawings are being made. The first phase of this trail will be located behind Trenholm Plaza at Trenholm Road and Forest Drive. A copy of the plan is below.



FOREST ACRES GREENWAY
GILLS CREEK WALKING TRAIL

PRELIMINARY MASTER PLAN ~ JULY 2009

