



## Stormwater Success Story: Flood Mitigation Projects and New Stormwater Rules Keep Property Owners Above Water

During the rapid urbanization of Lexington and Fayette County over the past 50 years, buildings have sprung up everywhere. With the population more than doubling over the time period, additional homes, shops, gas stations, and dozens of other types of structures have risen on land formerly occupied by farms, fields, and forests. Building sites on higher ground flourished during this frenzied period, but in some areas development crept close – too close – to the banks of Cane Run, Town Branch, Wolf Run, North and South Elkhorn, and East and West Hickman.

Particularly in the 1960s, many houses were constructed in the floodplain – the area of land adjacent to a stream that experiences flooding during periods of high flow. At that time, there was less awareness about the potential of flood damage. The National Flood Insurance Program, which creates flood hazard maps that help determine the cost of insurance, was not created by the United States Congress until 1968. Fayette County did not join the program until 1979.

For the past 20 years however, the Lexington-Fayette Urban County Government (LFUCG), which is supplemented by support from the Federal Emergency Management Administration (FEMA), has helped homeowners to relocate out of harm's way by buying routinely flooded homes through its Stormwater Capital Improvement Projects.

"People started realizing that the babbling brook in the backyard was great during the summer, but could be a real problem after heavy rain," said Greg Lubeck, Stormwater Section Manager with LFUCG.

"All the development we had in the 1960s, 70s, and 80s started causing some real headaches. We had a storm in 1992 that caused a lot of havoc, and the city started funding a lot of stormwater drainage projects. At first, the engineers talked about buying homes upstream from flooded areas and taking them down to build big stormwater ponds. But then somebody said, 'Why not buy the homes that keep flooding instead?'"

By the mid-1990s, the program began buying the first flooded properties. "We bought and demolished about 250 homes, and created some nice greenspace along some neighborhood creeks in the process," said Lubeck. "We used local money at first." However in the 2000s, "FEMA started coming through with some funding. The city has been very aggressive in pursuing FEMA grant funds, which covers 75% of the total cost. The local Water Quality Management Fee covers the remaining 25% of FEMA projects and all other locally funded projects."

LFUCG has identified some of the most frequently flooded properties through its Stormwater Priority Project List. Generally, as federal monies become available, representatives of the program will contact



*Flooding of homes built within the floodplain of a sinkhole near Parkside Drive and Cabot Lane in 1989. Ten properties in this area have since been purchased and demolished as one of LFUCG's Stormwater Priority Projects.*



*Aerial photographs of Parkside Drive near Cabot Drive and Shandon Drive from 2002 (left) and 2014 (right). Ten residences in the area, originally constructed in the floodplain in the 1960s, were purchased and demolished by LFUCG.*



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property owners in these areas to discuss interest in the voluntary buyout program, and then pay for an appraisal and title to the property if all parties are in agreement. Structures are then removed and the land is managed afterwards as open space, often adding some green space in the rows of homes in Lexington's residential areas. New structures, with the exception of open-sided shelters or rail fences, are not allowed to be built on the properties – not even wire or chain link fences are allowed.

However, funding and future uses can vary from project to project. Routine flooding of a sinkhole near Parkside Drive led to the purchase of ten residences along Cabot Drive and Shandon Drive through two federal grants, while local money was used to purchase six houses near Tates Creek High School because they were not located in a mapped floodplain. A project along Wickland Drive became the site of a detention basin. Another neighborhood re-established native vegetation along a project on Willowood Drive. One of the properties purchased along Kilrush Drive is being utilized for a sanitary sewer wet weather storage tank project.

Lubeck said the program “ebbs and flows” over the years, with wet years resulting in more flooding and more interest in the program than dry years. “We’re managing two FEMA grants right now,” he said. “In 2009-2010 we did a bunch. Last year we only bought a couple properties, but this year it looks like a dozen or so.”

Sometimes it is hard for people to leave a home they have been in for decades. Besides the physical hazard of several feet of floodwater pushing against – and into – a home, there are hazards associated with mold, mildew, and contaminated water. “We’ll work with them – we understand where they’re coming from,” Lubeck said.

Lubeck noted that the overall trend in Lexington today indicates that fewer properties are being flooded due to better stormwater drainage and new post-construction stormwater requirements. “You have to build two feet above the expected 100-year flood event,” he said. “That’s really keeping things nice and dry.”



*Flooding of a Lexington residence*



*Aerial photographs Kilrush Drive nearby Wolf Run from 2002 (left) and 2010 (right). Eighteen residences in the area that were constructed in the floodplain in the 1960s were purchased and demolished as part of LFUCG's Stormwater Capital Improvement Projects.*



*Property owners along Kilrush Drive assess the property damage caused by a flood in June 1992.*