



City of Durham | North Carolina

Date: September 29, 2011

To: Thomas J. Bonfield, City Manager

Through: Theodore L. Voorhees, Deputy City Manager

From: Marvin G. Williams, Director of Public Works  
Edward Venable, Engineering and Stormwater Manager  
Paul Wiebke, Assistant Stormwater Manager

Subject: Presentation – Stormwater Private Drainage Assistance Program

#### Executive Summary

The City Manager has requested Stormwater staff review Chapter 70, Article VIII of the Durham City Code to explore opportunities to expand the private drainage assistance program. Heavy rains in May and July of this year resulted in a number of requests to the Stormwater Utility for assistance with drainage problems located on private property that are beyond the scope of the current private property program. The majority of these requests were for stormwater system maintenance on private property located outside of city owned rights of way. Through the stormwater private drainage assistance program to date, the City has not conducted maintenance of drainage systems outside of City owned rights of way or City owned property. Performing maintenance on private property could result in the City assuming liability for future maintenance of privately owned drainage structures.

In addition, the City is experiencing an increasing need for funding to address failing City owned drainage infrastructure such as Belt Street near Golden Belt and Old West Durham locations. Also, there are insufficient resources to proactively maintain the City owned drainage system as mandated by City Code and the City's National Pollution Discharge Elimination (NPDES) Permit. The City currently performs maintenance, repair and replacement of the stormwater drainage system within City owned rights of way and property as problems occur. The City's NPDES Permit requires regular routine inspections and maintenance of the drainage system within City rights of way and City owned property, documentation of deficiencies, plan of corrective actions and documentation of corrective actions.

Due to the City's obligation to address underfunded programs currently mandated by City Code and the City's NPDES Permit as well as the potential for increased City liability and cost associated with performing maintenance of private drainage systems, staff does not recommend expanding the discretionary stormwater private drainage assistance program for private drainage system maintenance activities. However the Public Works Director has provided an interpretation of the existing ordinance such that, the current stormwater private drainage assistance program may be expanded to include drainage conditions that concern loss of primary access to or the imminent threat of loss of primary access to an inhabited or occupied building. Currently the private drainage assistance program includes conditions that impact or threaten an existing inhabited or occupied building structure, or a public street, sidewalk, or other public pedestrian walkway.

## Recommendation

The Administration recommends that the City Council receive a presentation on possible expansion of the existing stormwater private property assistance program (Chapter 70, Article VIII Durham City Code).

## Background

The current private property program addresses the most severe drainage problems on a non-emergency response basis. These drainage problems include structural impacts or the threat of imminent structural impacts to an existing inhabited or occupied building or a public street, sidewalk, or other public pedestrian walkway. Examples include, but are not limited to, failed drainage systems that cause sustained street flooding; living space flooding of residential structures; or flooding of an occupied building constructed on a permanent foundation connected to utility services (electric, gas, water, sewer). Situations in which assistance is typically provided are the result of failed or failing drainage pipes located beneath inhabited homes or occupied buildings.

Staff has identified through a Geographic Information System (GIS) study, approximately 1000 pipes in conflict with building structures. Since 1995, Stormwater staff has completed 395 drainage improvement projects on private property, at a cost of approximately 4.5 million dollars.

The City does not own, operate or maintain drainage systems outside City rights of way unless an easement has been granted to the City for that purpose. Staff has rarely encountered drainage easements on private property that obligate City maintenance. Current City practice requires that drainage easement language on plats to be recorded state explicitly that the easement is private and does not obligate the City to perform any maintenance work. The current easement language reads as follows: "Ownership of and responsibility for improvement and maintenance of storm water facilities in this easement remains with the current owner. This easement and the Revised Declaration (Deed Book 2298\_ Page 208\_) do not create the obligation to provide public maintenance."

Responsibility for the flow of stormwater runoff or any water onto and off a piece of property is found in common law that recognizes that lower lands must accept runoff from higher lands. When the City annexes land, public roads and utilities within rights of way become the City's maintenance responsibility. No rights or responsibilities for drainage system maintenance on private property are conveyed to the City when property is annexed into the City. Similarly, sanitary sewer laterals and water service lines are the responsibility of the property owner to maintain and replace as necessary. The North Carolina Supreme Court has held that "there is no municipal responsibility for maintenance and upkeep of drains and culverts constructed by third persons for their own convenience and the better enjoyment of their property unless such facilities be accepted or controlled in some legal manner by the municipality."

The City currently performs maintenance of the stormwater drainage system within City owned rights of way as problems are reported. The City's National Pollution Discharge Elimination (NPDES) Permit requires inspections and maintenance of the drainage system, documentation of deficiencies, plan of corrective actions and documentation of corrective actions.

Chapter 70 Article VIII was modified in December 2009 to cap City participation in private property projects to reduce the City's contribution to extremely expensive private property projects. The City

now contributes 80% of funding up to \$ 20,000 for drainage projects on single family residential properties and 70% of funding up to \$35,000 for all other properties. The average cost of a private property assistance project is approximately \$11,000.

Drainage problems on private property that are affecting City owned rights of way or property may be addressed by Capital Improvement Program projects that are 100% Stormwater Utility funded.

#### Issues and Analysis

In the City, approximately 1000 pipes have been identified to be in conflict with building structures. Eventually all confirmed pipe conflicts could potentially qualify for the current private property program. If the City elected to contribute to the repair of all of these conflicts, it could cost the City as much as \$30 million.

Approximately 37 % of the drainage system in Durham is located within City owned rights of way or on City owned property. This amounts to 306 miles of stormwater pipe maintained by the City and 459 miles of stormwater pipe located on private property. The Stormwater Maintenance budget for FY 2012 is approximately \$1.7 million. Expanding the program to provide maintenance to the entire drainage system within the City at the current level of service would require an increase in funding of \$ 2.55 million annually. The current level of service for maintenance of City owned drainage infrastructure does not meet the requirements of the City's NPDES permit and would require additional funding to achieve compliance. In addition, by providing maintenance the risk exists that this will be viewed as the City accepting these privately owned stormwater facilities with the associated liability. Currently, the City is not liable for privately owned stormwater conveyances.

The City currently has estimated obligations of approximately one billion dollars to reduce nitrogen and phosphorous loading from existing development in Jordan and Falls Lakes. This does not include the cost for addressing impairments in Durham's streams caused by excess sediment, bacteria, and metals.

Given the staggering current and future costs of complying with mandated regulatory programs, staff does not recommend further expansion of the discretionary private property assistance program at this time.

#### Alternatives

City Council may choose not to receive this presentation.

#### Financial Impact

This item has no financial impact.

#### SDBE Summary

The Ordinance to Promote Equal Business Opportunities in City Contracting does not apply to this item.