



# CITY OF FALLS CHURCH

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DATE: October 7, 2019 (updated October 30, 2019)  
TO: Wyatt Shields  
FROM: Alan Dalton – DPW  
SUBJECT: Stormwater Improvement Project Update

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## Background Information

This Memo is intended to be a summary of the City’s actions and decisions regarding stormwater improvement projects in the time since the August 7, 2019 “Town Hall” meeting. I’ve included specific information and maps on the proposed projects. Future updates will not include this detailed information. This memo is also intended to be released to interested parties and the affected residents.

At the time of the Town Hall meeting, the staff proposed a 6 month study period in which the City’s 2012 Watershed Master Plan would be updated to include a focus on stormwater Quantity projects. The original 2012 study was the result of over two years of meetings and analyses but excluded projects which did not provide water quality improvements.

Subsequent to the August 7, 2019 meeting, City staff reconsidered that proposal and determined that we should start detailed analyses and preliminary designs in areas of known flooding. The intent is to provide realistic engineering solutions for improvement (i.e. not propose to replace every storm sewer and inlet) and to minimize public meetings until preliminary design / cost estimates are completed. The preliminary design would be accomplished by two separate methods:

## Small Projects

Identify several small projects that could be constructed by DPW-Operations or our on-call contractor. These would be of limited scope and small cost, but could be constructed almost immediately following design. The two initial projects would be:

1. Laura Drive / Poplar Drive overlot area. Flooding is due to curb overtopping. Possible improvements are the enlargement of inlet throats, addition flanking inlets at the sag, reconfiguration of pipes, and grading on lots to allow the runoff to remain in the ROW. (see Laura / Poplar exhibit, attached for survey area). The city is in the process of reconstruction / enlarging two of the inlets. Additional inlets, or the reconfiguration of the pipe connection on Laura Drive may be required. Following inspection of sections of the existing 15” pipe, a relining of two pipe sections was proposed. This would maintain the pipe capacity which is

adequate for the 10 year storm. However, the City does not have easements, other than a prescriptive claim for the existing pipes on these two lots. That issue will need to be resolved prior to any construction on private property.

2. Lincoln-West. This is the area between 913 / 915 Lincoln Avenue lot rear and the W&OD trail. (see survey limits Lincoln-West exhibit, attached). Possible solutions are additional / larger inlets in Lincoln Avenue, a better inlet in the rear of 915 Lincoln, and the removal of the berm between the lot and our storm inlet in the W&OD ROW.

Design of these two small projects would be done in-house by DPW staff.

## Large Projects

For larger projects, we would have a consultant perform the analysis and preliminary design. The City has several on-call engineering consultants available and we have asked GKY & Associates to submit detailed cost proposals for these projects. We have identified five (5) possible areas / project and these are listed below. For all of the projects, the highest priority will be the prevention of homes / basements from flooding. None of these projects involve homes within the mapped floodplain. The second priority would be the prevention of ponding in the streets, at an unsafe depth. Of lesser priority is water ponding / flowing in yards where the homes do not flood. The five projects are listed below and I have excerpted the project descriptions from my “request for proposal” to GKY.

- A. Trammel Branch – This would be the area starting with all homes fronting on West Columbia Street, continuing through Shadow Walk and to the W&OD trail. The old railroad embankment and both streets act as dams to impede the flow of water to the culvert under the trail. The culvert capacity may be restricted by the headwater in the receiving culverts on the South side of the W&OD trail. Although the 2012 WMP envisioned a “daylighting” of the existing piped outfall to Four Mile Run, this is likely impractical and a parallel pipe could be considered. The area upstream of the W&OD culvert is mapped as Resource Protection Area (RPA) but houses / improvements were constructed in the RPA. All of the houses with flooding on 7/8/19 are within the RPA. The study area would include area shown in red on the attached pdf, but the outfall would extend to Four Mile Run.
- B. Hillwood Avenue Area 1 - This project would attempt to solve the ponding / flooding issues in the rear of the lots fronting on Hillwood Ave / Brook Drive and eliminate ponding / curb overtopping the Streets. Detention may be required since the outfall into Fairfax County may be capacity limited. The study area is shown in red on the attached pdf.
- C. Hillwood Avenue Area 2 – This area is behind the homes at 905 to 1005 Hillwood Drive and is the area that is the subject of a long running disagreement regarding the ownership /

maintenance of these pipes. The project would attempt to solve ponding / flooding, primarily in the rear yard of the homes.

- D. Sherrow Avenue area above South Virginia Avenue - Flooding in this area occurs as the result of the lack of inlets and storm culverts on Sherrow Avenue. We envision that this study would add inlets / storm sewers in the Sherrow Avenue ROW, discharging through one of the lots on the SW side on the street and into the Tripps Run floodplain (see pdf attachment).
- E. East Columbia / Harrison Branch Area – This is an area of ongoing flooding. Residents at the lower end have requested side yard swale improvements while those along East Columbia Street have experienced yard / house flooding.
- F. Ellison Branch Study with Lincoln Avenue extension – This would be a modification of the GKY, May 2019 “Ellison Branch Drainage Study”. The original study concluded that none of the structural detention options were viable and recommended house specific floodproofing. The modification of this study would be to extend the analysis Northwest along Lincoln Avenue, to the Sycamore Street intersection. The goal would be to extend storm sewers and add inlets to prevent runoff from overtopping the curb. The study / survey would also identify obstructions in rear / side yards that restrict overland relief of flows.

## **Status**

The design of the projects and management of consultants will be constrained by City Staff availability, funding for consultant contracts (and eventually construction costs), and by the capacity / condition of our downstream storm sewers. Since the Town Hall Meeting, DPW has been in the process of reorganizing / adding staff to allow me (Alan Dalton) to focus on these stormwater projects. The changes will not be complete until our new storm / sanitary engineer starts work (underdetermined tie frame).

### Storm System Information

Due to staff turnover, DPW has little institutional knowledge regarding prior system capacity. In the last month, we have been able to recover our citywide “Stormcad” model, and reinstall / reauthorize the software to run the model. A copy has been provided to GKY for their use.

### Small Projects

On October 1<sup>st</sup>, I met with Dewberry (on-call engineering consultant), and requested fee proposals for detailed topographic surveys on both the Laura / Poplar and Lincoln West Projects. Dewberry has provided an estimate which was twice the expected amount. The City is in the process of soliciting additional quotes. “Miss Utility” will also need to mark utilities on the lots in advance the survey. I will notify the owners by letter in advance of the calling Miss Utility.

### Large Projects

I have provided GKY with a scope of services and request for proposal to perform the modeling and preliminary design of the 6 projects. On September 18, 2019 I walked the 6 projects sites with GKY.

During that time we spoke with a number of the residents. The City received an initial proposal and have requested modifications to the scope of services / methodology. We should receive the modified proposal within a week. The City will have to resolve budget / funding issues for these projects since our current budget does not include these costs.