

CM Report (h)  
3-11-03

March 10, 2003

Dear Alexandria resident:

As you know, many homes in the City of Alexandria, particularly near Commonwealth Avenue (which contains a large sanitary sewer line), incurred damages due to sewer backups and flooded basements the weekend of February 22, 2003. I am writing to explain why this happened and what the City is doing about it.

### **What Happened and Why**

These sewer backups were caused by a rare combination of events: melting snow from an unusually severe storm that dumped more than 16" on Alexandria, and a very heavy rainfall of 2 ½ inches in a short time span.

Because of these events, parts of the City's sanitary sewer system along Commonwealth Avenue were overwhelmed. As an example of the demands put on the system, the Alexandria Sanitation Authority processed over 100 million gallons of sewage on Saturday, February 22, compared to its normal volume of 45 million gallons per day.

Due to the aging of the City's sanitary sewer system, problems occur with the infiltration of ground water into the system's pipes and the inflow of storm water into the pipes. The infiltration of ground water occurs as a result of leaks in the sewer pipes themselves, which allow the entry of nearby groundwater. The inflow of storm water comes from roof down spouts, driveway drains and groundwater sump pumps that are connected directly to the sanitary system.

Normally, infiltration and inflow do not cause a problem. However, given the large amount of water from melting snow and rain we experienced on February 22, very substantial amounts of water entered parts of the sewer system, causing the large sewer line in Commonwealth Avenue to become overloaded. When this occurred, material in that pipe, and in the pipes that feed into it, began to back up, which resulted in backups in the sewer pipes (called "laterals") that normally carry wastewater from homes to the main sewer line in the street, and eventually backups into the basements of homes.

### **What the City is Doing to Help Residents Now**

1. The City Manager will propose a cost assistance plan which, with the City Council's approval, will reimburse residents for a share of the costs they incur in purchasing and installing a "back flow preventer" (a.k.a., a backwater valve, or a check valve). This is a device that can be p not a guaranteed fix, backflow preventers operate just as their name suggests -- they are designed to prevent material in a sewer line from "backflowing" into most homes if

Council, the program should be in operation in 30 to 45 days..

2. The City is providing assistance to homes that sustained damage by picking up damaged household items (carpet, furniture, etc.) at no cost, if placed at the curb. Citizens may call the City's refuse collection division at 703.751.5130, and ask for a special pick-up related to the water damage at a residence.
3. The City will consider claims seeking compensation for damages sustained as a result of the sewer backups. To file a claim, contact the City's Risk Management Office at 703.838.4549. Claims will be investigated to determine whether the City is legally liable for the damages sustained. Whether the City is liable for these claims is largely a legal issue, that is determined by the City Attorney's Office.

Citizens also should file claims with their own insurance carrier. To facilitate the making of a claim, photos should be taken of all damaged areas and goods. However, many homeowner policies specifically exclude coverage of losses caused by water damage from sewer backups. As a result, a policy endorsement must be purchased which removes this exclusion. Homeowners are urged to review their insurance policy and, where a "sewer backup" exclusion exists, obtain a policy endorsement that removes this exclusion. Homeowners are also urged to consider obtaining a policy endorsement that provides for damaged personal property to be replaced with new items, rather than paid for on a depreciated basis.

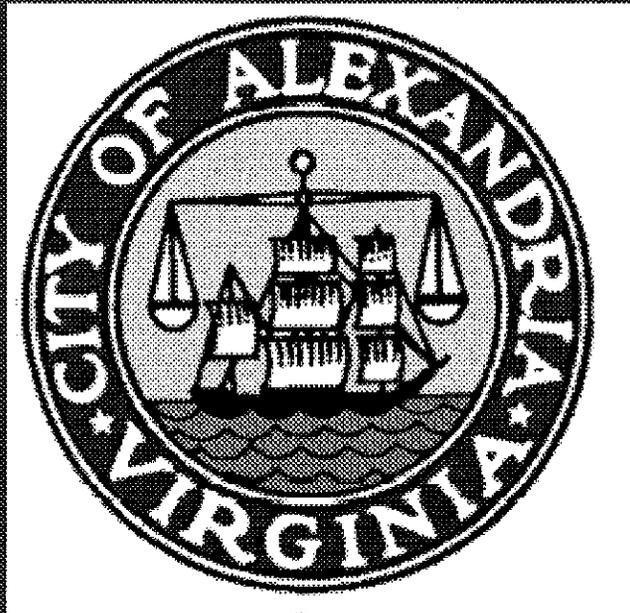
### **What the City is Doing So Backups Do Not Happen**

In the past three years, the City has been developing plans for improvements to the sanitary sewer system in the Commonwealth Avenue and Four Mile Run sewershed areas (see attached map).

In 1999, the City began testing the sanitary sewer system in the Four Mile Run area using video monitoring and smoke plumes to determine the extent of the inflow and infiltration, and to develop a solution which would enlarge sanitary sewer line capacity and correct deficiencies in the sanitary sewer collection system. More than \$5 million in repair work in this area is scheduled to begin this calendar year, and will include the replacement of pipes, relining of sewers and manhole repairs, and other actions to reduce the flow of ground and surface water into the sanitary sewer system.

The City Manager is recommending a reallocation of, as well as an increase in, sewer infrastructure funds in order to expedite the rehabilitation of sanitary sewers in the Four Mile Run and Commonwealth sewershed areas. This recommendation will be part the proposed Capital Improvements Program, which is to be presented to City Council on March 11. If these recommendations are adopted, it is anticipated that improvements to the sanitary sewers in both the Four Mile Run and Commonwealth sewersheds can be completed within the next 36 months, which will be a substantial acceleration of these improvements.

# City of Alexandria Wastewater Collection System



March 10, 2003



# AGENDA

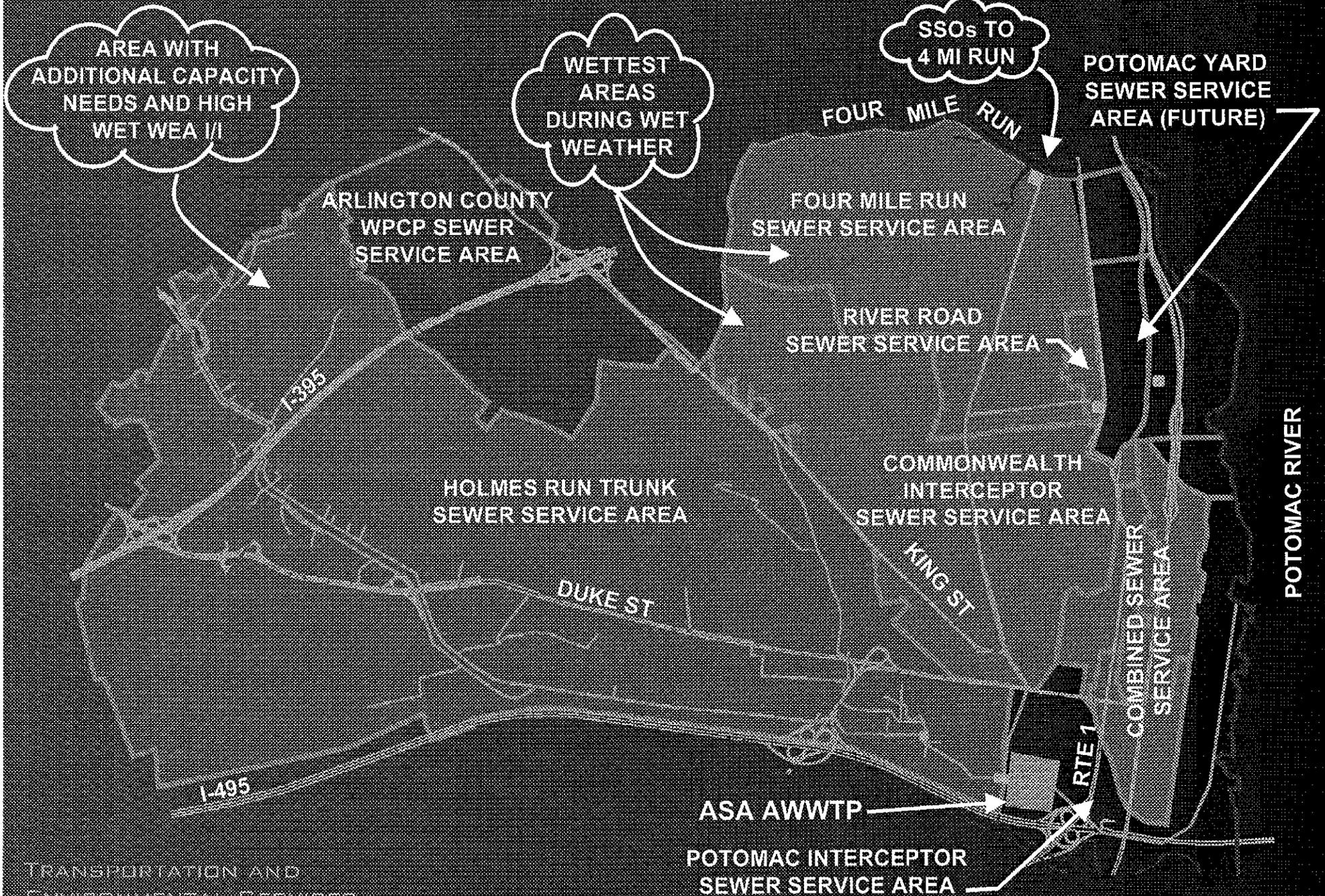
**I. What Happened and Why**

**II. What the City is Doing**

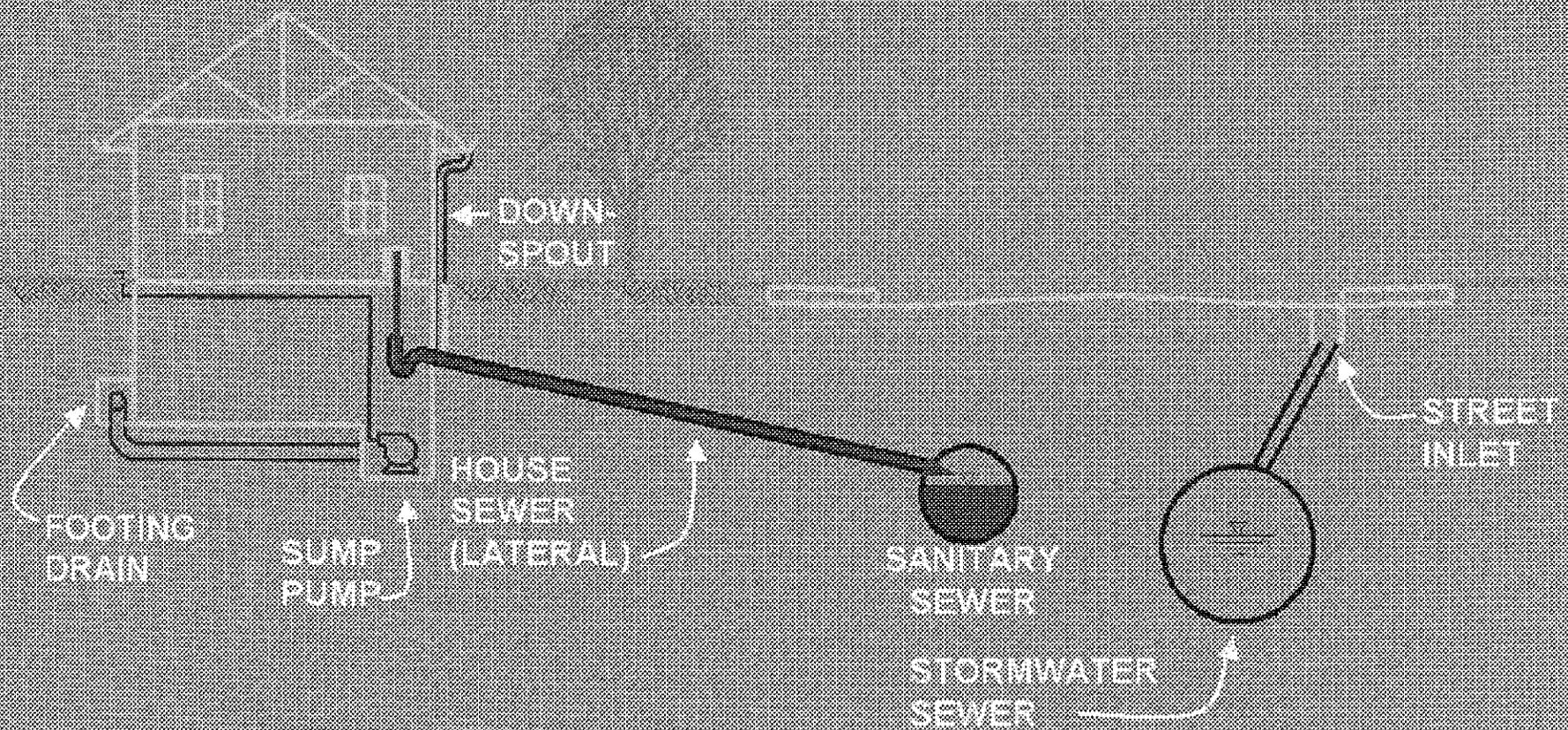
**III. Questions and Answers**



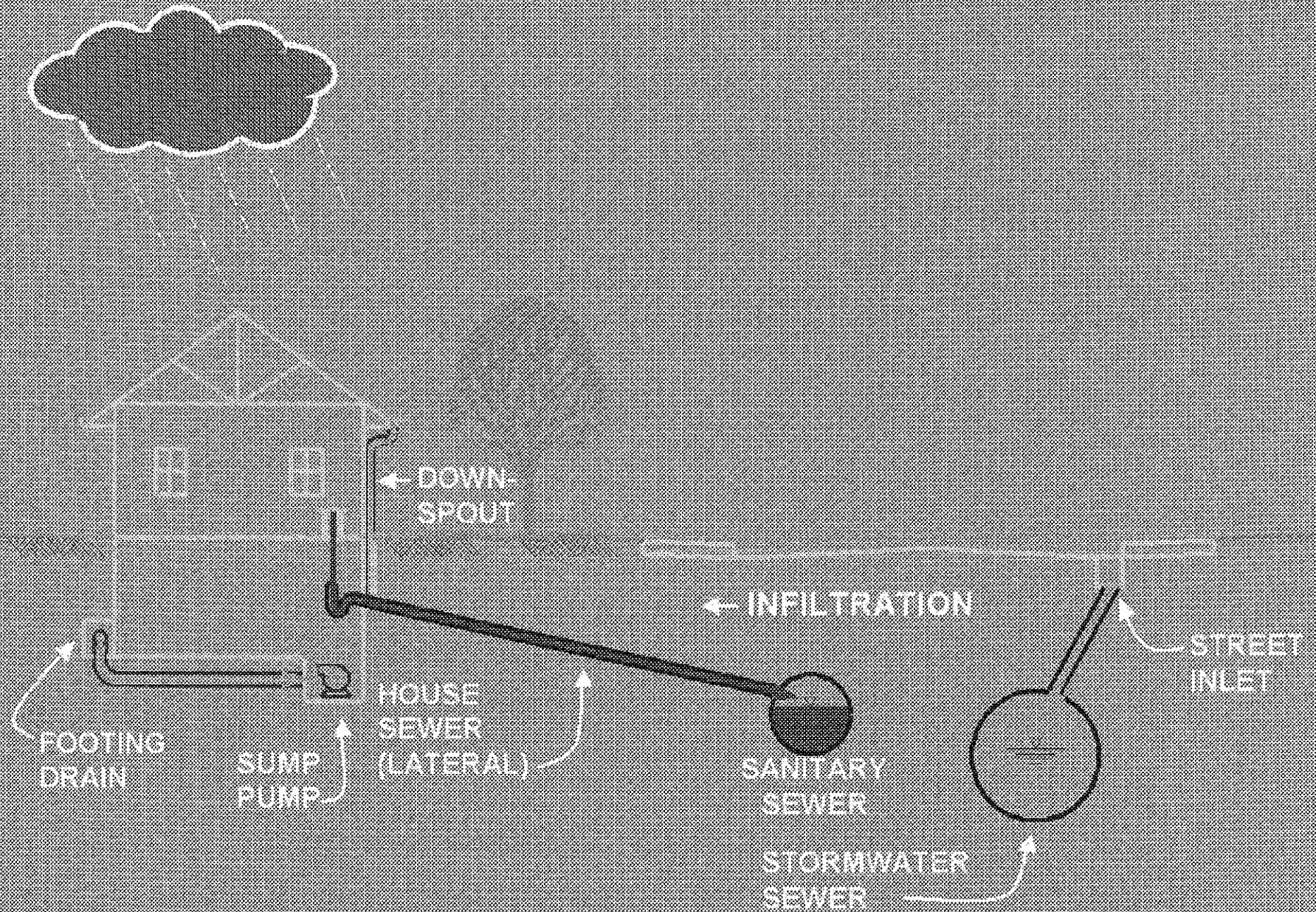
# SERVICE SEWER AREAS



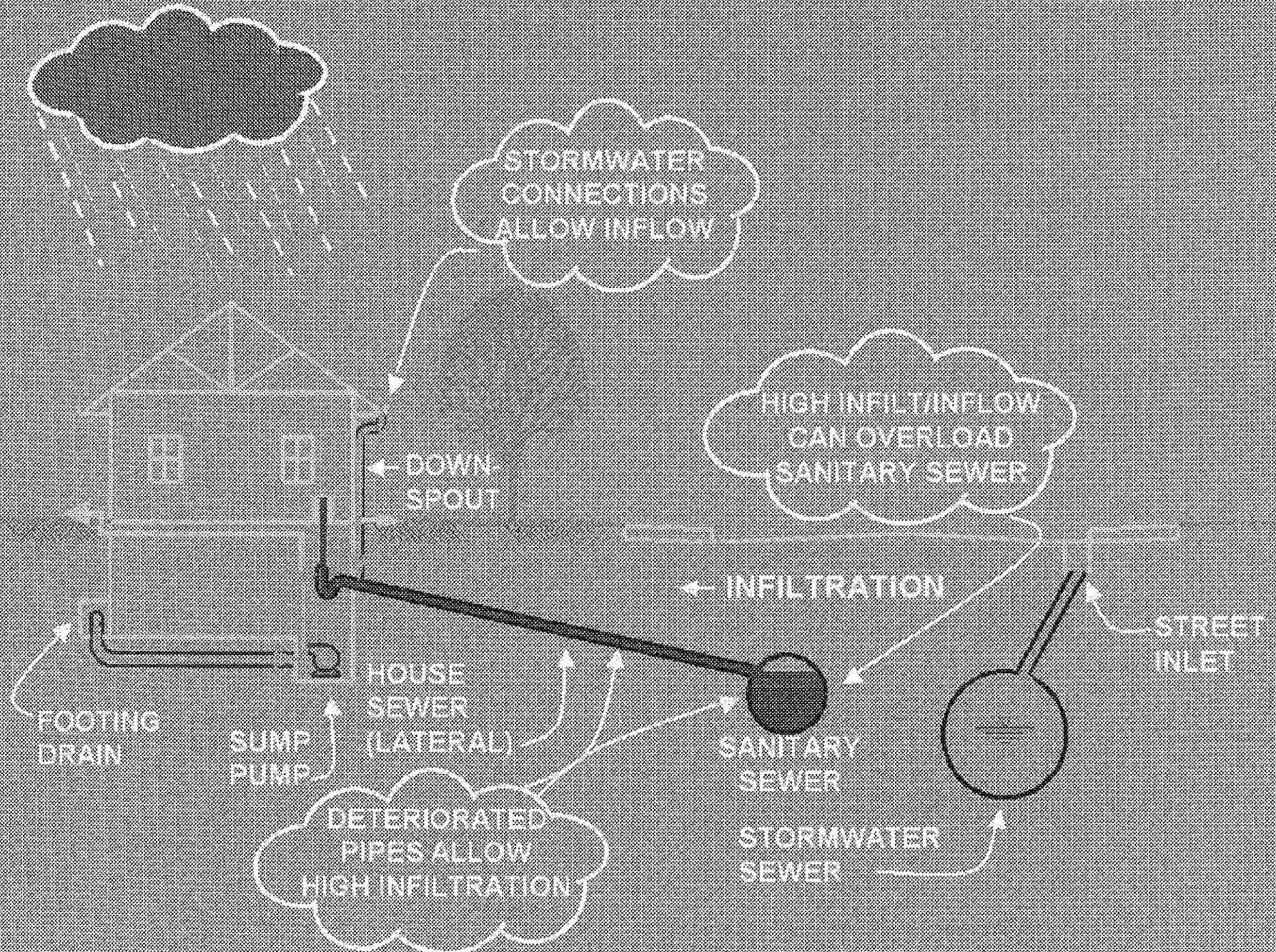
SEPARATE SANITARY SEWER SYSTEM  
COMPLETE SEPARATION  
(DRY WEATHER)



SEPARATE SANITARY SEWER SYSTEM  
COMPLETE SEPARATION  
(WET WEATHER)



SEPARATE SANITARY SEWER SYSTEM  
HIGH INFILTRATION/INFLOW  
(WET WEATHER)





# Accelerated Infrastructure Rehabilitation

- Reprioritization of City wide sewer funding to accelerate construction contracts
- \$6 million rehabilitation contract for Four Mile Run Sewershed award end of 2003
- \$6 million rehabilitation contract for Commonwealth Sewershed award end of 2004
- Re-evaluation of rehabilitated system at end of 2005 to determine any additional needs
- Accelerated 3 year program versus previous 8 – 10 year program
- Other short-term measures to divert flow

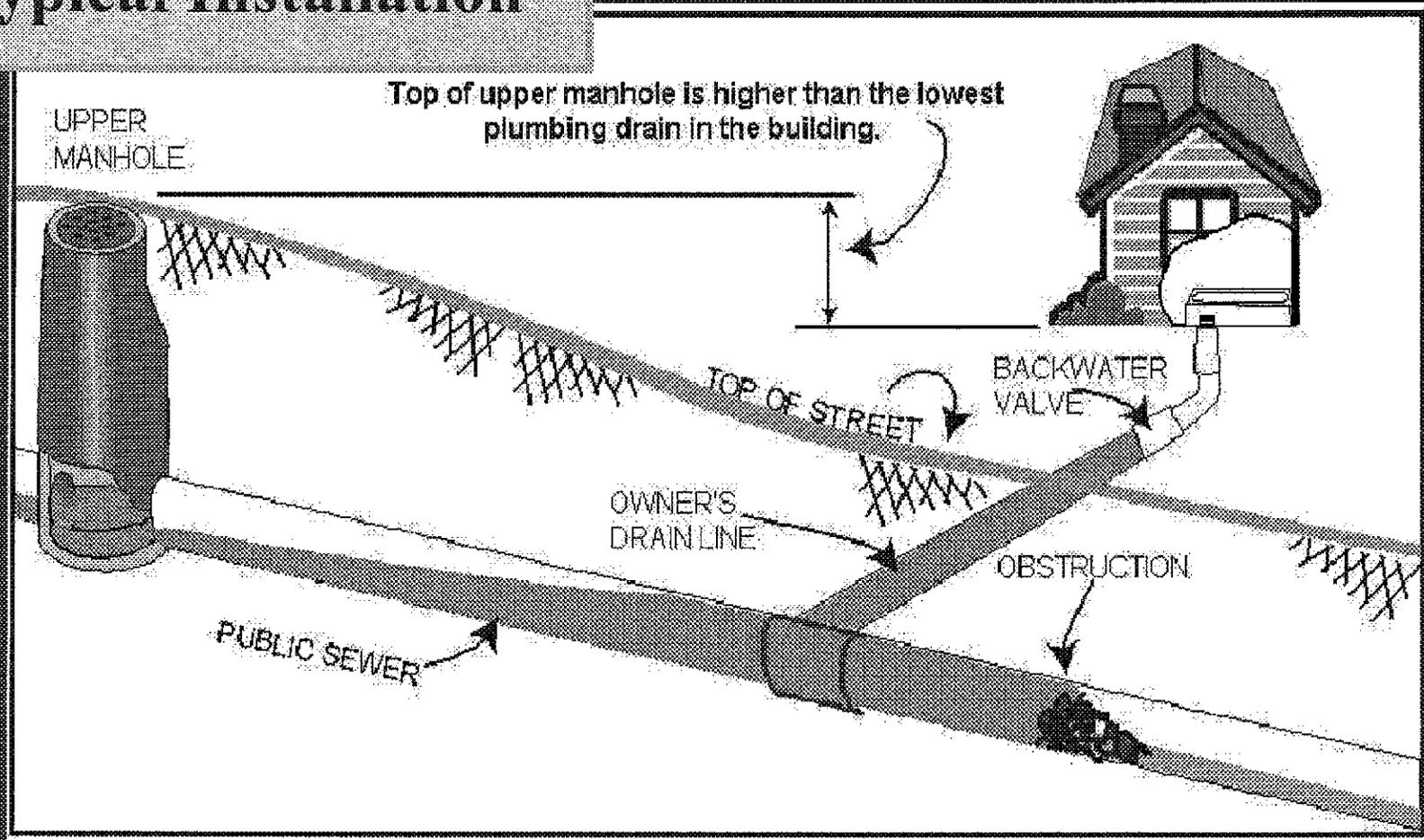


## Proposed City Cost-Assistance Program for Backflow Preventer Systems for Effected Properties

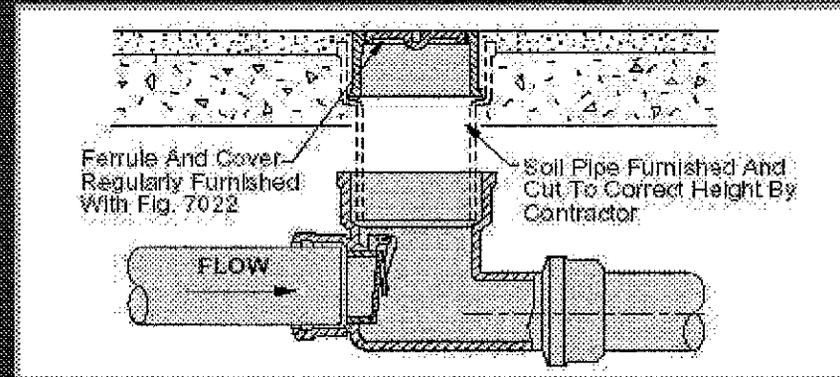
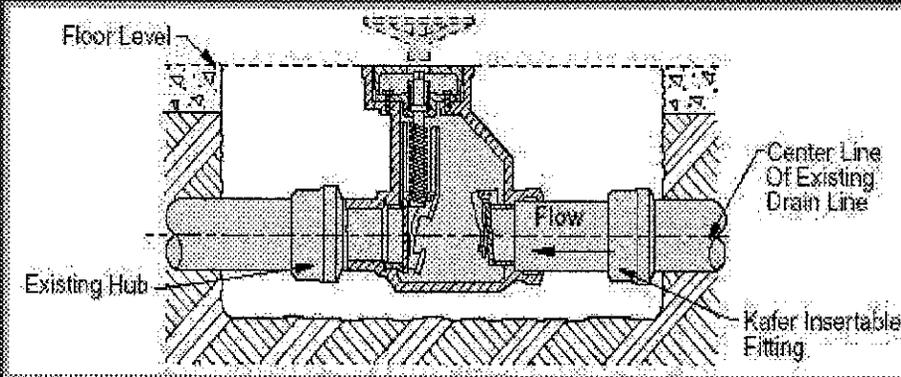
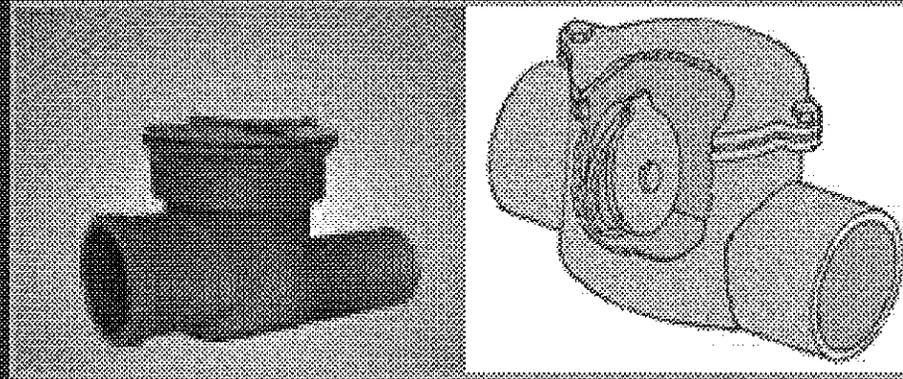
- City Manager will be recommending program to City Council
- Installation of backwater device (aka, backflow preventer valve or check valve) to help protect against property damage
- Offers property protection in interim, during sewer infrastructure rehabilitation phase



# Typical Installation



# Typical Backwater Valves



# QUESTIONS

For more information  
[www.ci.alexandria.va.us](http://www.ci.alexandria.va.us)  
or  
703-838-4966



*Transportation & Environmental Services*