

City of Alexandria, Virginia

MEMORANDUM

DATE: AUGUST 28, 2003

TO: THE HONORABLE MAYOR AND MEMBERS OF CITY COUNCIL

FROM: PHILIP SUNDERLAND, CITY MANAGER *PS*

SUBJECT: APPLICATION FOR AN AMENDMENT TO AN EXISTING FEDERAL ENVIRONMENTAL PROTECTION AGENCY GRANT TO PROVIDE AN ADDITIONAL \$650,500 FOR THE FOUR MILE RUN SEWER SERVICE AREA INFILTRATION/INFLOW PROJECT

ISSUE: City Council consideration of an application to amend an existing grant from the United States Environmental Protection Agency (EPA). The existing grant awarded \$873,000 to assist in remediating infiltration/inflow (I/I) conditions in the Four Mile Run sewer service area. The amendment will provide an additional \$650,500.

RECOMMENDATION: That City Council:

- (1) Authorize the City Manager to apply for the grant amendment and additional federal assistance; and
- (2) Authorize the City Manager to execute an amended grant agreement with the United States Environmental Protection Agency in the total amount of \$1,523,500 for the project.

BACKGROUND: In 2000, the City began a multi-year program to remediate inflow and infiltration in the sanitary sewer system in three major areas of the City: the Four Mile Run, Commonwealth, and Holmes Run sewer service areas (Attachment 1). The Federal Clean Water Act prohibits sewage overflows into streams from separate sanitary sewer systems. The City's program to reduce and control excessive infiltration and inflow will maintain the required compliance with laws and regulations.

The City's remediation program started with the Four Mile Run sewer service area, which is located in the northern part of the City as shown in Attachment 1. Flow monitoring and field investigations showed that the Four Mile Run area has excessive infiltration/inflow. Infiltration is defined as groundwater that enters sanitary sewer through connections such as roof downspouts, driveway drains and groundwater sump pumps. During wet weather, such

excessive inflow and infiltration negatively impact the capacity of the sewer system to adequately handle the sanitary sewer flow which can cause such adverse conditions as flooded basements, the discharge of sewage into the streets and waterways and the over loading of the sewage treatment plant.

The City has now completed its studies in the Four Mile Run sewer service area to identify sources of the I/I and continues to conduct such extensive studies for the Commonwealth Interceptor and Holmes Run Trunk sewer service area. Studies for the Four Mile Run sewer service area have included flow monitoring at multiple locations, closed circuit television (CCTV) inspections of all sanitary sewers, manhole inspections, dye testing and smoke testing. The work involved:

- CCTV inspection of approximately 30 miles of sanitary sewers;
- 944 manhole inspections; and
- Surveys of 6,544 properties.

The studies indicate a need for rehabilitation measures to reduce the infiltration/inflow into the sanitary sewers.

The process also includes an extensive public outreach program to inform the public of the problems and impacts caused by excessive I/I. Brochures were prepared and meetings held with citizen groups to inform them of the causes and results of excessive I/I, the purpose and objectives of the field investigations, schedules and testing procedures. The information program focused on the benefits of reducing I/I.

Due to excessive I/I in the Four Mile Run sewer service area, recent heavy rains in February and June have caused sanitary sewer surcharges and basement back-ups in this area. As a result of these recent backups, the City has accelerated the capital funding for this project. Previous City CIP funding of \$5,027,000 over five years has been moved up to \$17,797,000 over four years. The City has also implemented a backflow preventer cost-sharing program to assist property owners in the affected area who want to install backflow preventers. The City has also done additional public outreach to educate the public about the I/I remediation program, as well as the backflow preventer program.

DISCUSSION: In November 2001, Congressman James Moran notified the City that, at his initiative, Alexandria would be receiving \$873,000 from the U.S. Environmental Protection Agency (EPA) for reconstructing aging sanitary sewer lines for the protection of water quality in Four Mile Run. After filing the required application, an assistance agreement between EPA and the City was signed in October 2002, making the funds available to the City.

In June 2003, the City was notified that EPA had appropriated additional funding in the amount of \$650,500 for the I/I remediation project. In order to award the grant, EPA requires that the City submit an application, even though the funds have already been appropriated.

The \$650,500 from the EPA grant will be combined with the prior EPA grant monies and City monies to do the remediation work in the Four Mile Run service area. The Four Mile Run remediation project will include the following measures:

- Removal of tree roots from existing sewer pipes.
- Internal repair of joints, pipes and connections between street sewers and laterals.
- Internal repair of manholes and prevention of the entrance of surface run-off through covers and cracked pavement joints.

It is estimated that approximately 51,000 feet of sanitary sewer will be included in the remediation along with about 800 manholes.

As part of the grant agreement, EPA requires the City to provide matching funds for the project. The City's match requirement is 45% of eligible costs, for a total match of \$1,246,500 for the amended grant amount. This will be satisfied by the \$17,797,000 that is planned in the City's Capital Improvement Program (CIP) through FY 2009 to correct infiltration/inflow problems in the City's sewer system. The first remediation construction contract is scheduled to begin in November 2003 and will cost approximately \$6,200,000. This contract will take approximately nine months to complete. A second construction contract for the Commonwealth sewer service area remediation will begin in Winter 2004.

FISCAL IMPACT: The \$650,500 grant from the Environmental Protection Agency requires an additional City match of \$532,200. This match will come from the City's FY 2004 to FY 2009 Capital Improvements Program which contains \$17,797,000 through FY 2009 to correct infiltration/inflow. The FY 2004 CIP reflects unallocated prior year funds and FY 2004 funds of approximately \$12,000,000 budgeted for I/I remediation in the Four Mile Run sewer service area and along the Commonwealth Interceptor.

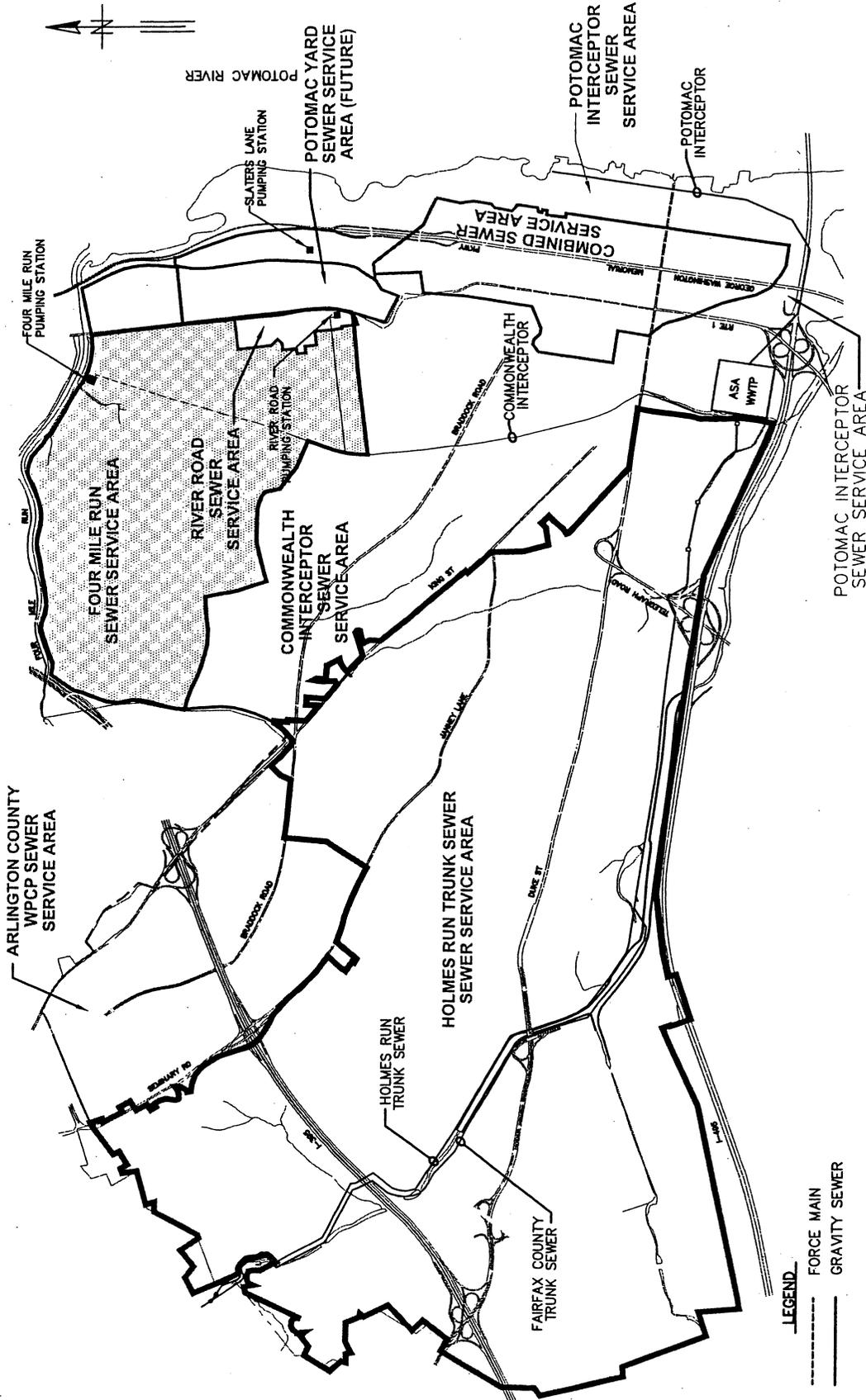
ATTACHMENT: Map of the Trunk Sewers and Sewer Service Areas

STAFF:

Richard J. Baier, P.E., Director, T&ES

Emily A. Baker, P.E., City Engineer, T&ES

FIGURE 1



**TRUNK SEWERS AND SEWER SERVICE AREAS
IN ALEXANDRIA**

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES
FOUR MILE RUN 1/1 STUDY
EXECUTIVE SUMMARY
JUNE 2002

GREELEY AND HANSEN LLC