

# FOUR MILE RUN RESTORATION PROJECT

## **Our History**

*Four Mile Run Restoration Master Plan*

## **Our Present**

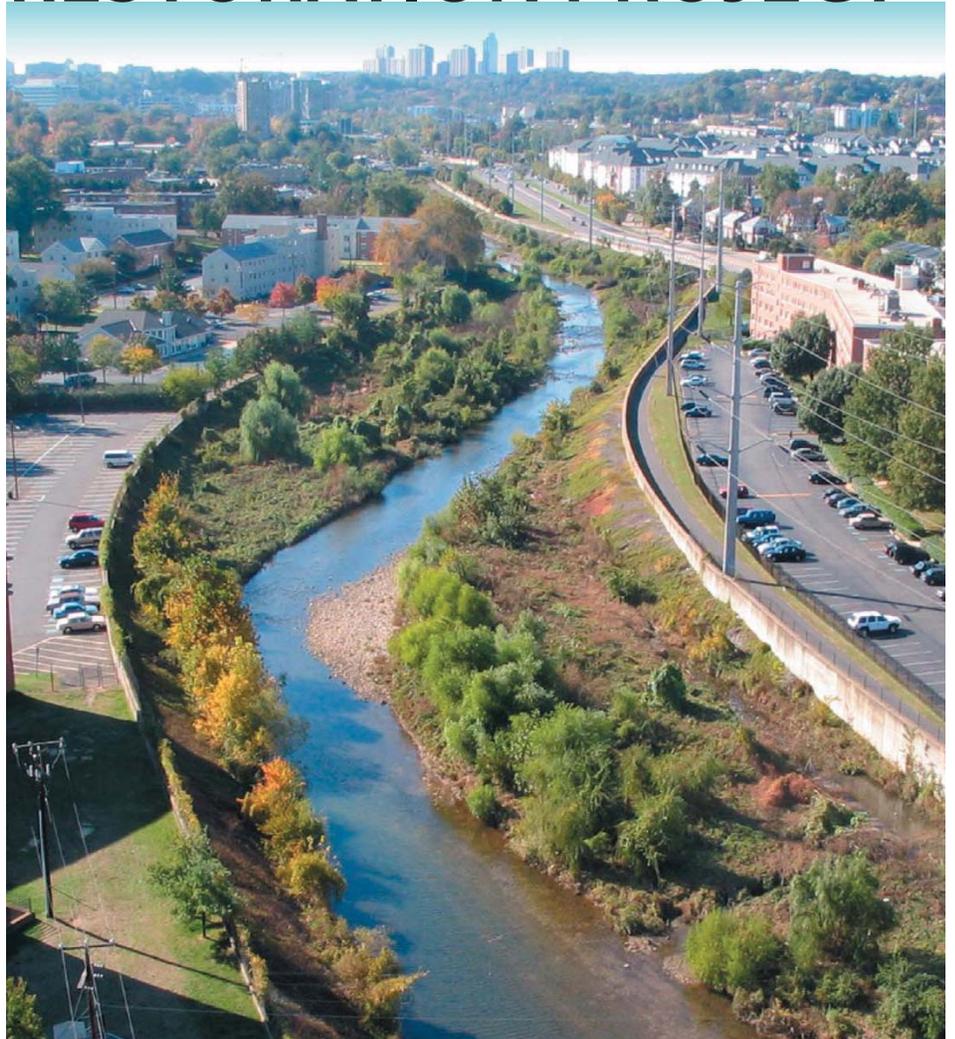
*Design Guidelines  
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October 2008

Arlington and Alexandria  
Virginia

# 2008 UPDATE



**Download the Approved Restoration Master Plan**  
<http://www.novaregion.org/masterplan>

## Four Mile Run Watershed

**Area:** Approximately 20 square miles  
**Population:** 183,000  
**Impervious Coverage:** 40 percent  
**Developed Land Area:** 85 percent  
**Project Corridor Length:** 2.3 miles, from Shirlington to the confluence with the Potomac River.

## Federal Flood Control Project

In response to a history of flooding affecting adjacent communities, the U.S. Army Corps of Engineers partnered with Alexandria and Arlington to build a flood control channel in the lower portion of Four Mile Run. The flood control channel, constructed during the 1970s and early 1980s, has safely conveyed the high storm flows through the two jurisdictions.



When the channelization project was conceived in the 1960s, the sole objective of the project was flood protection and, in this respect, the project has been a success; no floods have breached the banks along the 2.3-mile channel since its construction. Although successful in flood control, the channelized portion of Four Mile Run leaves much to be desired in terms of aesthetic and environmental attributes.



The maintenance requirements for the channel include yearly thinning of vegetation and periodic excavation of the sediment that deposits on the channel bed. The nearly uniform trapezoidal shape of the channel does not offer many of the natural characteristics of streams - such as riffles, pools and shady areas - needed to sustain much of the aquatic life once found in Four Mile Run.

# OUR HISTORY



## History of the Four Mile Run Restoration Project

The first seeds of the Four Mile Run Restoration Project were planted when the Arlington County Board initiated a study of development options for the Arlington County portion of Potomac Yard, known as the "South Tract." In the process of sharing ideas and information about the stream's potential, the leaders were emboldened by data suggesting that physical, ecological and aesthetic improvements to the stream corridor need not compromise the level of flood protection called for as part of the flood control project implemented in the 1970s.

At that point, Arlington and Alexandria residents joined together and, through the interest and support of Congressman James Moran, the U.S. Environmental Protection Agency awarded a \$1 million grant to conduct a joint Arlington-Alexandria study of the corridor, resulting in the development of the Four Mile Run Restoration Master Plan.

## Four Mile Run Restoration Master Plan

Adopted by both the Arlington County Board and the Alexandria City Council in March 2006, the Master Plan provides the framework and vision for future changes in the lower Four Mile Run Corridor.

The guiding principles for the project, derived from community and governmental input, encompass eight key focus areas:

- Flood protection
- Environment
- Aesthetics
- Recreation and urban life
- Integration and balance
- Access and connectivity
- Education and interpretation
- Planning horizon

The Master Plan envisions that the Four Mile Run corridor will become a model of urban ecological restoration. Through sensitive and sustainable integration of natural areas with active urban nodes, the Four Mile Run corridor will be a place along which the communities of Arlington County and the City of Alexandria can gather, recreate and celebrate a shared waterfront legacy.

# OUR PRESENT

## Design Guidelines

**W**hile the Four Mile Run Restoration Master Plan establishes a broad vision to fulfill the great potential of the Four Mile Run stream corridor, the Design Guidelines document will add greater clarity and specificity to the Plan's over-arching ideas and establish the visual and physical character of the future improvements.

The goal of the Guidelines is to establish a clear design palette that future collaborative teams may use as a basis of their work. The intent is not to restrict creativity or to limit the possibilities of future design efforts, but rather to build a strong framework upon which future ideas may be applied.

### Design Language

**T**he preferred design language identified during the Design Guidelines development process is a composite between Modern/Rustic and Industrial/Infrastructure Reuse.

The benefits of this solution include:

- Harmonizes new elements with both existing structures and natural landscape elements;
- Creates a distinctive sense of place within the existing framework;
- Enables the design language to evolve with technological advancement;
- Allows for natural weathering and wear without sacrificing the intended appearance;
- Emphasizes minimal maintenance and minimal impact on resources; and
- Maximizes the use of recycled materials.

**Estimated Completion: Winter 2009**

## Demonstration Projects

### Pedestrian-Cyclist Bridge Design Competition

**T**he proposed bridge will connect Commonwealth Avenue in Alexandria with South Eads Street in Arlington. Safe pedestrian and cycling routes and greenway access is especially important at this crossing, as foot traffic has increased with the area's denser development.

The bridge will provide a safe crossing between currently disconnected neighborhoods and commercial attractions while protecting the area from increased vehicular congestion.

A competition will take place to determine a signature design for the bridge. A "blue ribbon" judging panel will then select the three finalists for further design and engineering development.

**Estimated Completion: Spring 2010**

### Modern/Rustic Composite Design Language



## Water Pollution Control Plant Fencing

In collaboration with the Four Mile Run Restoration Project, Arlington County will soon release a Request for Qualifications to hire a professional artist, or team of artists, to generate a vision for the beautification of portions of the new fence that will surround the Arlington Water Pollution Control Plant (WPCP). The project will focus on the area near the Arlington terminus of the future pedestrian/cyclist bridge.

Virginia DEQ mandated WPCP upgrades and expansion to improve the quality of the Potomac River and Chesapeake Bay. Located in the heart of the restoration project corridor, the WPCP is designed to process roughly 30 million gallons of wastewater per day generated by people who live and work in Arlington County.

**Estimated Completion: Spring 2009**

### Tidal Corridor Restoration

**T**he tidal corridor restoration demonstration project will involve the physical naturalization of both sides of the stream from Route 1 to the east, and west of the proposed location of the Eads-Commonwealth Pedestrian-Cyclist Bridge.

Areas for tidal wetland bar creation, restoration, and/or revitalization will be identified and designed, along with opportunities for the removal of gabion baskets and other hardened structures. Trash reduction strategies and efforts to maximize interpretation and education opportunities will also be identified.

The location of the demonstration project reflects the importance of integrating urban and recreational amenities with in-stream restoration in the upstream tidal reaches.

**Estimated Completion for Design: Spring 2010**

# OUR FUTURE

## Core First Project

The projects that comprise the vision outlined in the restoration plan are estimated to cost approximately \$261 million (excluding any work to place power lines underground).

In order to make the \$261 million restoration plan cost estimate manageable, the Agency Coordination Group (ACG) reorganized the consultant-prepared cost estimates to coordinate with potential funding sources and schedules. This discrete project cost summary arranges project components by cost and timeframe. The summary also organizes project components by geographic area, upstream to downstream. Individual area projects are further separated into in-stream versus and near-stream activities. Where the level of planning has occurred to date, the summary also considers construction sequencing.

Project partners are developing a core first project designed to guide each locality's Capital Improvement Program (CIP) and other budget planning efforts for the next 10 years. The core project carries an estimated cost of \$29.3 million, with each jurisdiction responsible for \$9.0 million, and the U.S. Army Corps of Engineers (USACE) funding the remaining \$11.2 million.

For a breakdown of the costs associated with the core project, please refer to the cost estimate table on the following page.

### Core First Project Components:

#### Stream and wetland restoration in each of the seven project areas.

The Master Plan strives to "reestablish the vegetation that once lined the stream and existed in the lowland wetlands but has since disappeared or been colonized by invasive species." Stream and wetland restoration efforts will be cost shared between the USACE and the localities at 65 and 35 percent, respectively. The core project's in-stream components generally will proceed from upstream (Area 1) to downstream (Area 7).

#### Urban recreation and gathering features (e.g., ball fields, plazas, canoe launch, etc.).

No specific initiatives have been outlined as of yet; rather, projects will be pursued where funding becomes available either through grants, developer contributions, or CIP specific projects. For planning purposes, a general \$10 million line item (\$5 million per jurisdiction) has been included in the cost estimation spreadsheet for the core project.

# OUR CHALLENGES

## Project Funding

The ACG will continue to seek funding for project planning and implementation, including annually funding Northern Virginia Regional Commission (NVRC) participation, from a variety of public and private sources, including, but not limited to:

- Capital Improvement Programs
- Virginia Coastal Zone Management Program
- Development Community
- Federal Highways Appropriations
- Virginia Department of Transportation
- Private Foundations/Grant Opportunities

## Long-Term Corridor Maintenance

Future maintenance responsibility for structural elements shared between Arlington County and the City of Alexandria will be identified and agreed to between both jurisdictions. These elements include, but are not limited to:

- Nature/Interpretive Center
- Pedestrian-Cyclist Bridges
- In-stream components spanning from Alexandria to Arlington

# OUR FUTURE



ARLINGTON COUNTY  
CITY OF ALEXANDRIA

FOUR MILE RUN RESTORATION MASTER PLAN  
DRAFT ILLUSTRATIVE PLAN

RHODESIDE & HARNWELL, INCORPORATED  
CHOMALL, INCORPORATED  
WATERSCALES / DREISEL

	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Urban	Total
1A	Stream / Wetland Restoration	4,339,000							
2A	Stream / Wetland Restoration		1,364,000						
3A	Stream / Wetland Restoration			2,595,000					
4A	Stream / Wetland Restoration				3,496,000				
5A	Stream / Wetland Restoration						3,009,000		
6A	Stream / Wetland Restoration					1,831,000			
7A	Stream / Wetland Restoration						652,000		
7N	Bridge Removal						1,972,000		
NA	Urban Features / Recreation							10,000,000	
<b>Subtotal Phase 1</b>		<b>4,339,000</b>	<b>1,364,000</b>	<b>2,595,000</b>	<b>3,496,000</b>	<b>1,831,000</b>	<b>2,624,000</b>	<b>10,000,000</b>	<b>29,258,000</b>

**FOUR MILE RUN RESTORATION PROJECT "CORE PROJECT" COST ESTIMATES**

**Note**

The basis for the cost estimates come from the Master Plan, adopted in March 2006. Localities continue to find funding sources for these core projects.

**The Four Mile Run Agency Coordination Group (ACG) is a multi-disciplined team representing Arlington County, the City of Alexandria, the Northern Virginia Regional Commission, the U.S. Army Corps of Engineers, and the two co-chairs of the citizen Joint Task Force. The ACG guides the planning and implementation of restoration projects along the lower Four Mile Run corridor.**

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**Prepared by NVRC  
on behalf of the Four Mile Run ACG**

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**[www.novaregion.org](http://www.novaregion.org)**