A. Community Profile

1. THE DEMOGRAPHICS OF A DIVERSE AREA

The total population of the study area (according to the 2000 Census) is approximately 33,000, which comprises roughly 18 percent of the total population in the 20 square-mile Four Mile Run watershed. Currently, slightly more than half of the population falls between ages 18 and 44, with 25-34 year-olds comprising the largest segment of the population. Moreover, the population in general is aging: just under half of the current population will be age 55 or older within 20 years. (Figures 2.1 and 2.2)

The Four Mile Run corridor is diverse in terms of age, income, housing and cultural background, with some demographic characteristics concentrated in certain areas. While average annual incomes in the Four Mile Run corridor mirror those in Alexandria and Arlington and are considerably higher than the national average, mapping income statistics at the Census block group level (the smallest geographical unit used by the Census Bureau for Summary File 3) reveals a wide range of incomes in the corridor and a substantial gap between the highest-income block groups and the lowest-income block groups. (Figures 2.3, 2.4 and 2.5)

Analysis at the block group level also reveals the distribution of languages spoken. Aggregate information on languages spoken at home shows that a sizable percentage of the population speaks either Spanish (30%) or other languages (10%) while the majority (60%) speaks English. Viewed at the block group level, it is clear that the largest concentrations of non-English speakers reside in four block groups east of I-395 as well as in the Shirlington block group west of I-395. (Figures 2.8 and 2.9)

Population and housing types also vary by location. Not surprisingly, areas with the highest populations also include the highest concentrations of rental housing units. Overall, rental housing units constitute more than half of the total number of housing units (57%). (Figures 2.6 and 2.7)

The Four Mile Run corridor is diverse in terms of age, income, housing and cultural background...
Figure 2.1: Age Breakdown

Figure 2.2: Population

Figure 2.3: Income

Figure 2.4: Median Household Income

Figure 2.5: Per Capita Income
Jinda has lived near Four Mile Run for 20 years and uses the park every day. Here she swings a golf club in Four Mile Run Park to keep her joints moving in the cold weather.
2. THE EVOLUTION OF THE FOUR MILE RUN CORRIDOR

A Brief History of Four Mile Run

A source of abundant natural resources and a natural transportation corridor, Four Mile Run attracted residents centuries ago. Native Americans were the first to arrive, developing settlements along its banks. Some of these settlements were visited and recorded by Captain John Smith during his voyage up the Potomac in 1608. By the late 17th century, private landowners began to divide the land surrounding the stream into large parcels. Land ownership maps from 1760 show the subdivision of vast land areas to the north and south of Four Mile Run. Large plantations owned by Gerrard and John Alexander, sons of John Alexander (namesake of the City of Alexandria), were well-positioned on the north and south sides of Four Mile Run, with smaller adjacent parcels owned by John Carlyle and Nathaniel Chapman.

Beginning in the early 19th century, transportation and defense left their mark on the landscape. Several forts, constructed during the Civil War, dominated the ridge lines above Four Mile Run. Meanwhile, railroad lines and the Alexandria Canal established transportation routes through the region. By the early 20th century, and accelerating in the decades that followed (especially after World War II), urban development began to encroach on the Four Mile Run watershed. The combination of rapid development near the stream and a period of major flooding prompted the U.S. Congress to authorize the construction of the Four Mile Run flood control project by the U.S. Army Corps of Engineers in the 1970s. Four Mile Run Park was constructed as part of this project on both sides of the stream.

Traces of the Past

While most of the earliest physical structures in the corridor are now gone, some traces remain in the landscape. The family home of Gerrard Alexander, built during the 1740s, is now an archeological interpretive site located near the main terminal of Ronald Reagan Washington National Airport. The structure at Fort Scott (circa 1864) no longer exists, but its prominent ridgetop location is marked by a park bearing the same name. The railroad lines established major transportation routes still used today, and Potomac Yard—a railroad facility established in 1906 that eventually occupied 526 acres—is now a major regional commercial, entertainment and residential development of the same name.

The Alexandria Canal, completed in 1843, had a brief but interesting history. The original stone viaduct structures are gone, but the Washington Metropolitan Area Transit Authority (WMATA) Metrorail system now follows the canal's route into the District of Columbia. The location where the canal crossed over Four Mile Run is still marked by a series of modern, concrete bridge structures. This location also marks the site of an explosive train wreck that occurred in 1885 where the canal, train tracks and wagon road (now U.S. Route 1) intersected at the Four Mile Run crossing.

Luna Park, a popular amusement park with an exuberant and exotic architectural style, was once situated prominently on the northern bank of Four Mile Run near the mouth of the Potomac. Four Mile Run’s amusement era was short-lived: the park opened in 1906, only to close for good in 1915. None of the park’s structures remain today, but the construction of Four Mile Run Park in Alexandria and Arlington restored this portion of the stream as a place for public congregation.
Finally, the flood control alterations carried out by the U.S. Army Corps of Engineers, as well as the development of Four Mile Run Park, had direct impacts on the stream corridor. As the rest of this document illustrates, the impacts of the flood project and the years of development that preceded it have left lasting and notable traces on the corridor, even as the restoration of Four Mile Run becomes a reality.

B. In-Stream Conditions

1. STREAM DYNAMICS

The Four Mile Run corridor has changed dramatically over the past century. The watershed and the stream channel itself have been transformed by human development, from a relatively natural river corridor to one shaped and controlled by urban infrastructure. These changes, along with further modifications as part of the 1970s flood control project, have affected not only the shape and physical characteristics of the stream but the manner in which it flows. The existing conditions are summarized below.

General Characteristics: Upstream and Downstream

The lower portion of Four Mile Run includes both tidal areas—where the stream approaches the Potomac and is controlled by backwater effects from the river—and non-tidal areas further upstream. To analyze the changes in character along the stream, it is helpful to divide the stream into “reaches”—areas that share similar conditions. While the four upper reaches share many of the same “alluvial” characteristics, the reach farthest downstream is distinguished by tidal processes. (Figure 2.11)

The Stream That Lost Its Meander

A glance at historic aerial photographs of Four Mile Run illustrates the changes in the alignment of the stream corridor. Over time, urban development spread to land adjacent to the stream, as vegetated riparian zones gave way to the buildings, roads and parking lots that line the stream today. With these changes in land use, the shape and dynamics of the stream channel was altered. It lost its sinuosity—or degree of meandering—and over time adopted its straighter configuration and narrower floodplain boundaries, including thinner buffers and diminished wetland areas. The U.S. Army Corps of Engineers levee construction project in the 1970s changed the stream even more dramatically with the construction of floodwalls, gabion embankments and stretches of large riprap. (Figure 2.12)

One of the pivotal challenges of the Master Plan process stems from the fact that it is no longer possible to restore the stream completely to its most natural form given today’s watershed characteristics and the infringement of urban development into what was once the original alignment of the stream. Quite simply, the “most natural” channel alignment will not fit into the space left by urban development. As a result, while there are certainly ample opportunities to achieve river restoration goals within the flood control system, the significant changes to the landscape necessitate a compromise between what existed prior to urban development and the shape and character of the stream today. (Figures 2.13 and 2.14)

“Four Mile Run master planning effort is a model of successful inter-jurisdictional collaboration. By working in concert with citizens, Arlington County and the City of Alexandria have developed a long-term vision focusing on environmental and community enhancement that exemplifies the strength of regional approaches to improve our communities. I am very proud that local leaders in Northern Virginia understand the value of regional cooperation.”

Barbara Favola Chair, Northern Virginia Regional Commission
Changes in Hydrology: An Opportunity for Restoration with Flood Protection

The changes in hydrology that have occurred during the urbanization of the Four Mile Run watershed are tightly linked with the changes in channel form. Currently, Four Mile Run experiences high peak stormwater discharges that occur very rapidly, even during relatively moderate rainfall. The short “lag time” between rainfall and rising water levels in the stream channel is due to the extent of urban development surrounding the stream and the amount of impervious surfaces—roads, parking lots, rooftops—that prevent stormwater from infiltrating into the ground. Rather, water is delivered quickly and efficiently to the stream by means of underground storm drains. Prior to the development of the watershed, peak flows would have been of a much smaller magnitude and the lag time to that peak would have been longer. The increased quantity and velocity of water flowing through Four Mile Run in turn exerts a significant amount of wear and tear on its bed and banks.

At the same time, since the completion of the flood control channel in 1980, peak storm events have been less severe. While there were several large “flow events” in the 21 years prior to the flood control project, no events of this size have occurred since 1972. In essence, the flood control channel was designed using data from an exceptionally “wet” period in time. The three large events that occurred during the relatively short 21-year-long record worked to skew the flood control project design statistics upward, thereby predicting a larger magnitude flood event for which to size the levee. The 100-year event (or one-percent probability event) based on the data available in 2004 is 29 percent smaller than the similarly probable event predicted in 1972, based on the data available to project designers. The result of this update in the statistical analysis of stream flow is that the existing channel has been designed for significantly more than the 100-year flood event, the level of protection intended to be provided by the flood control project.

What does this mean for Four Mile Run? As noted in a recent Northern Virginia Regional Commission analysis, “[t]he decrease in predicted 100-year event flows offers promise that opportunities exist to enhance the environmental viability of the channel without diminishing perceived flood protection.” In essence, this means that the stream has the potential to become “more natural,” with improved ecology and aesthetics, without increasing the intended probability of flooding. Moreover, the addition of vegetation and pervious surfaces that can absorb rainwater throughout the project area and watershed—as well as greater attention to environmentally sensitive means of stormwater management—has the potential over the long-term to affect both the quality and quantity of water entering into the stream.

How the Stream Has Adjusted

The configuration and characteristics of Four Mile Run have been altered significantly from their pristine state, both by development that has occurred along its banks and in its watershed and by maintenance conducted on the flood control system. However, in much of the project area, the stream channel has adjusted to its new constraints and has reestablished some of the features found in more natural rivers (floodplain terraces, natural bedforms such as riffles and pools, riparian vegetation, etc.). Consequently, opportunities exist to take advantage of the natural stream processes that are occurring and to call attention to interesting geomorphic aspects of the stream. For example, the restoration can take advantage of the relatively stable slope and pattern that the channel has formed and perhaps attempt to naturalize portions of the channel bed that have been severely impacted over the years.
“The Corps of Engineers embraces this opportunity to marry our traditional focus of flood protection with the evolving mission of ecosystem restoration. This Four Mile Run Master Plan establishes a new benchmark for transforming a local flood protection project into a vibrant community asset.”

LTC Joseph T. Hand, Deputy District Engineer, U.S. Army Corps of Engineers, Baltimore District
Using a longer period of record, the statistical analyses to predict the magnitude of the 100-year storm flow (the storm flow with a 1% chance of occurring in a given year) are more precise and, in the case of Four Mile Run, predict a smaller magnitude event. This chart shows the magnitude of peak flows in Four Mile Run over the entire period of record, compared to the 100-year design flow. The design flow used by the U.S. Army Corps of Engineers in 1973 to determine flood control needs was 22,500 cubic feet per second (cfs). A more recent analysis by the Northern Virginia Regional Commission has lowered the design storm estimate to 15,970 cfs, which is more statistically robust because of the longer historical record (42 versus 21 years). Note that no measured flows, neither the 1973 estimate nor the revised estimate of 15,970 cfs, have exceeded the 100-year design storm in Four Mile Run.

In-Stream Opportunities and Challenges

In summary, the current shape and character of the stream presents both opportunities and challenges that can influence the ways in which restoration can occur in the stream corridor. In particular, changes in hydrology now justify rethinking the character of the stream within the flood conveyance channel. Specific opportunities include:

- Replacement of hard bank protection with bioengineered bank protection
- Rerouting of the banks to a more natural slope
- Removal of barriers restricting the passage of fish
- Enlargement of riparian buffer areas and the creation of a continuous riparian corridor
- Control of invasive vegetation
- Removal of concrete walls, fences, and barriers that limit both visual and recreational access
- Establishment of native vegetation on banks and floodplain terraces
- Control of urban debris and litter

At the same time, the restoration design faces a number of general constraints or challenges along the length of the Four Mile Run project area. These factors include:

- Utilities (i.e., sewer lines, power transmission lines and towers, stormwater drainage piping, highways, and local roads) run along and through the entire length of the project area, increasing the expense and decreasing the feasibility of ecological restoration.
- Private property on both sides of the stream may limit the potential to increase the width of the channel and riparian areas in order to make the stream more stable and ecologically functional.

Restoration will entail reconciling these competing factors. Challenges aside, there are ample opportunities for substantial and positive changes to Four Mile Run.
EXISTING CHALLENGES IN THE CORRIDOR
The Stream and Remnant Vegetation in Four Mile Run Park
Part of the Alluvial Reach at the End of Summer
Existing Community Revegetation Project
Existing Vegetation in Four Mile Run Park
C. Natural Environment

1. VEGETATION AND WETLANDS

In the Four Mile Run corridor, a variety of native plants and ecosystems—some of them rare and valuable—compete for space with invasive species and the maintenance requirements of structures such as gabion walls. In general, the riparian corridor adjacent to Four Mile Run contains limited vegetation. Any woody vegetation that grows along the gabion walls is removed to ensure the integrity of the structures. Invasive and non-invasive vines—including grape, honeysuckle, and tearthumb—grow in spots along the gabions and throughout the levee corridor. The floodplain bench that has formed inside the levee walls has been colonized by a variety of herbaceous plants, including grasses, goldenrod, aster, black-eyed susan, and prickly dewberry. Moreover, portions of the bench and portions of the walls where riprap was used for stabilization are beginning to be colonized by a variety of tree species, including sweet gum, sycamore, black walnut, black oak, silver maple, cottonwood, black locust, and cedar. Trees near the edge of the stream channel also include several willows. These trees and shrubs are generally small because they are removed during periodic maintenance of the channel.

Other invasive species observed along the Four Mile Run project area by the Virginia Native Plant Society include: English ivy (Hedera helix), Japanese knotweed (Polygonum cuspidatum), white mulberry (Morus alba), marsh marigold (Caltha palustris), purple loosestrife (Lythrum salicaria), tree of heaven (Ailanthus), paulonia (Paulownia tomentosa), mile a minute weed (Polygonum perfoliatum), porcelain berry (Ampelopsis brevipedunculata) and other species.  

While wetlands are limited within the project area, there is one large wetland area preserved as a wildlife sanctuary within Four Mile Run Park in Alexandria. Unique assemblages of wetland vegetation that are very rare in Alexandria and Arlington are currently flourishing in this wetland area. The most ecologically-rich communities of vegetation are clustered in the eastern and south-central portions of the wetland, in the open areas and along the fringe of the open and wooded areas. Approximately two-thirds of the wetland is forested, with the remaining area occupied by emergent vegetation. This wildlife sanctuary retains a brackish tidal marsh, which is comprised of semi-permanently flooded herbaceous vegetation. The area, partly wooded and partly open, constitutes a habitat that is fairly uncommon in Virginia.

The wetlands have numerous native Virginia species, including wild rice (Zizania aquatica), cattail (Typha latifolia), large colonies of yellow flag (Acorus calamus), pickerelweed, several uncommon sedges, and river bulrush (Schoenoplectus fluitatilis or Schoenoplectus tabernaemontani).
Species during this time include: mourning dove (Zenaida macroura), mallard (Anas platyrhynchos), ring-billed gull (Larus delawarensis), great blue heron (Ardea herodias), double-crested cormorant (Phalacrocorax auritus), brown-headed cowbird (Molothrus ater), European starling (Sturnus vulgaris), pied-billed grebe (Podilymbus podiceps), herring gull (Larus argentatus), rock dove (Columba livia) and American crow (Corvus brachyrhynchos). Raptors were also observed in flight: osprey (Pandion haliaetus), sharpshinned hawk (Accipiter striatus) and American kestrel (Falco sparverius).

Although this survey is not necessarily representative of the entire project reach, it is the only known wildlife study conducted within the study area.

D. NEAR-STREAM CONDITIONS

1. LAND USE

Residential uses constitute the primary land use in the area surrounding the Four Mile Run corridor. Located between residential areas, centers of mixed-use activity sit adjacent to Four Mile Run in three primary nodes: at Potomac Yard, along Mount Vernon Avenue and in the Shirlington area. Additional areas have an industrial character, especially around the Virginia Concrete plant, Arlington County Water Pollution
Control Plant, the Dominion Virginia Power substation and the Washington Metropolitan Area Transit Authority (WMATA) bus depot. The Four Mile Run corridor is also home to a number of schools and other institutional facilities, including the Charles E. Barret Elementary School and the Cora Kelly Elementary School in Alexandria as well as the Gunston Middle School, Drew Model School and Oakridge Elementary School in Arlington. The remaining land without buildings includes both open space, such as Four Mile Run Park and other parks scattered throughout the study area, and quite a few parking lots and other open and paved areas. (Figure 2.15)

Whether looking at a map or exploring on foot, what is most striking about Four Mile Run is how past land use decisions have reinforced the current "utility corridor" character of stream. The stream has become a place to house the variety of infrastructure and activities that we prefer to hide from our daily lives. In turn, Four Mile Run itself does not figure prominently on what the urban designer Kevin Lynch would describe as the "mental maps" of the sizable numbers of people who either live in surrounding areas or frequent the businesses and offices located there. Consequently, one goal of this Master Plan is to elevate the image of Four Mile Run in the minds of residents and visitors.

In some locations, vacant or underutilized land—potential development opportunities as development pressures increase—currently function as barriers, separating surrounding neighborhoods from their stream. Moreover, the orientation of existing buildings away from the stream also contributes to the perception of the stream corridor as a barrier. These areas underscore the significant amount of land close to the stream that is paved or otherwise impervious to rainwater. In addition to their negative impact on urban design and character, these areas also impact environmental quality in the stream itself. While ample parks and recreational facilities do exist along the corridor, these green spaces do not yet comprise a coherent open space network. In the future, Four Mile Run can function as a vital link in such a network.

2. ZONING AND PROPERTY OWNERSHIP

The future potential of the corridor hinges in part on the land use policies, regulations and property ownership that ultimately dictate development. As in the case of overall land use patterns, the largest zoning designation is also residential; however, in both Alexandria and Arlington, zoning designations do not always reflect actual land use. On the Alexandria side of the stream, the majority of the residential zones allow multi-family residences, with the exception of a single-family district in the area bounded by...
The Skerne is a living example of the full range of restoration techniques available. Envisioned as a medium for increasing our understanding of river restoration, the project employed a variety of restoration techniques and monitored the results of each approach. The project was shaped by a comprehensive public outreach process that included a follow-up survey evaluating public perceptions upon completion of the project. The restoration achieved its goal of “bringing the countryside into the town.”

West Glebe Road to the north and east and Cameron Mills Drive and North Overlook Drive to the west. Commercial districts include the area along the northwestern border with Arlington, east of the bridge connecting West Glebe Road with South Glebe Road, the Mount Vernon Avenue commercial district and the area at the southeastern edge of the study area. Special use districts (“Coordinated Development Districts”) encompass the Birchmere and Safeway/Datatel properties along Mount Vernon Avenue as well as the eastern portion of the study area. These special districts have site-specific standards and all allow for a mix of uses. The open space along the George Washington Memorial Parkway is designated as public open space and waterfront park and recreation. Finally, the Dominion Power property on West Glebe Road is zoned for utilities and transportation. (Figure 2.16)

On the Arlington side of the stream, single-family residential zoning (primarily east of I-395 and north of South Glebe Road) is mixed with multi-family residential zones west of Lang Street and along the northwestern edge of the Water Pollution Control Plant. Interspersed throughout the residential zones are special districts (S-3A) that allow for public uses such as parks, schools and places of worship. In addition, commercial zones include the area along Shirlington Road (north of Four Mile Run), the Village at Shirlington, two clusters of parcels along South Glebe Road, and the eastern portion of the study area at Potomac Yard and adjacent parcels. Industrial zones are located at the eastern and western ends of the corridor, while the Water Pollution Control Plant property is zoned as a “Public Service” district.

Both the City of Alexandria and Arlington County own land within the study area. In addition to the existing open space and park areas, these publicly-owned properties include the Alexandria Redevelopment and Housing Authority (ARHA) housing between the stream and West Glebe Road, and the County-owned parcels north of Jennie Dean Park. Other publicly-owned land includes the Ronald Reagan Washington National Airport and the National Park Service land along the George Washington Memorial Parkway, as well as public open space and the five school properties located in the vicinity of Four Mile Run. In addition, public/private utility land includes the Dominion Power facilities and transmission line rights-of-way, the Arlington County Water Pollution Control Plant, the WMATA bus depot and the CSX-owned rail line. It is important to note the high level of public utility land concentration along the stream. (Figure 2.17)

The importance of these operations, and the significant investments in upgrades to these facilities, makes these properties unlikely to change hands in the foreseeable future. The publicly-owned school and park lands are also unlikely to change hands, and these form the foundation of a network of public open space in the vicinity of the stream corridor. The greatest potential for change, therefore, is on privately-owned properties in response to pressures for both public acquisition and development, most
notably at Potomac Yard and the Village at Shirlington. In addition, there exists the possibility of acquiring easements for public access on privately-owned land adjacent to Four Mile Run.

3. A CORRIDOR IN TRANSITION: PLANS FOR FUTURE DEVELOPMENT

A variety of new development has been approved or proposed in the corridor. Many of these ongoing and future projects create potential opportunities for coordinating future development projects so that they contribute to the overall character of the corridor. In particular, substantial changes will occur at both Potomac Yard and the Village at Shirlington, further developing these areas as nodes of urban activity in the corridor.

Approved development at Potomac Yard includes two mixed residential and retail complexes, along with additional open space, just north of Four Mile Run on the Arlington side of the stream. The remaining South Tract parcels are designated for mixed-use development around a central park. In addition, developers have proposed new projects on the Alexandria side of Potomac Yard, including a “town center” development to the south of the study area. At Shirlington, approved development includes new apartments and condominiums, a new building that will house both a public library and a relocated Signature Theatre, and two new parking structures.
addition, a new transit center will be constructed at the southeastern edge of Shirlington. Additional proposed development includes hotel, office and parking structures.

Elsewhere in the corridor, approved development includes new townhouses on West Glebe Road, the Alexan residential development east of South Glebe between 24th Street and I-395, and the mixed-use Renaissance Center on Shirlington Road. Moreover, a hotel has been proposed for the site adjacent to the Alexan residential development. While not a significant change in land use, the substantial upgrades planned for the Water Pollution Control Plant, as well as the new natural gas line serving the WMATA bus depot, increase the likelihood that these facilities will remain in their current locations for the foreseeable future.

In Alexandria, the Arlandria Neighborhood Plan suggests that redevelopment on the Safeway/Datatel and Birchmere sites is likely within the next 5-10 years and 10-15 years, respectively. It also notes the importance of Four Mile Run and Four Mile Run Park and strongly encourages redevelopment activities to include visual and physical access to these assets. The City also expects some infill development to occur along Mount Vernon Avenue in the shorter term.

In Arlington, the Nauck Neighborhood Action Plan suggests a possible redevelopment opportunity on the site currently occupied by the Dunbar Homes, while ongoing planning and design work is studying alternatives for a new town center development in the neighborhood. Moreover, the Potomac Yard Design Guidelines for Arlington and Alexandria anticipate future uses for three former railroad bridges on the eastern edge of the study area. The easternmost bridge is intended to carry Potomac Avenue, while the other two bridges could be partially or wholly removed or used as open space, pedestrian crossings and venues for community activities.

4. TRANSPORTATION AND ACCESS

The study area is served by public transportation to a limited extent. Metrobus and local bus service (DASH Bus in Alexandria; Arlington Transit in Arlington) all have stops in the area, while Metrorail serves nearby stations at Reagan National Airport (a mile to the north), Crystal City (further away, but more accessible) and Braddock Road (over 2 miles to the south). (Figure 2.19)

On foot and on bicycle, access to the stream from surrounding neighborhoods varies depending on the location, with some areas entirely cut off from the stream by the lack of through streets. As a general rule, even those pedestrian connections that do exist...
would benefit from some form of traffic calming, since streets such as South Glebe Road are difficult and potentially dangerous to cross due to multiple lanes and fast-moving traffic. A few areas—south of the stream between Mount Vernon Avenue and Shirlington Road, north of the stream between I-395 and Shirlington Road and portions of U.S. Route 1—currently lack direct pedestrian connections to the stream.

Off-road trail connections alongside the stream are not yet continuous. Trail connections along the stream on the Arlington side of the stream will connect with the Washington & Old Dominion trail once the planned bicycle trail under I-395 is completed. The trail on the Alexandria side currently occupies the eastern half of the corridor, but stops just short of Mount Vernon Avenue, with off-road bicycle routes veering away from the stream at this point.

Surrounding roads impact the stream corridor to a significant degree. This impact includes bridge crossings as well as areas along South Glebe Road and South Arlington Mill Drive where the road runs parallel to the stream at a distance that is sometimes less than 30 feet. Traffic at a number of the major intersections—especially on South Glebe Road when approaching the bridge crossing—will be an additional consideration impacting Master Plan decisions.

5. INFRASTRUCTURE

Bridges
There are eleven bridges crossing the stream in the study corridor. These include six road bridges, two rail bridges and three inactive bridges. Of the six road bridges, four represent segments of arterial roads and two are controlled access and facilities. Decisions regarding the future of the inactive bridges, which present both opportunities and obstacles for achieving the Master Plan goals, will play a significant role in shaping the future plans for the eastern end of the corridor.

Utilities
The Four Mile Run watershed, including the project area, is criss-crossed by a variety of underground and above-ground utilities. The utilities most likely to impact the Master Plan include stormwater drainage infrastructure, sanitary sewers, water mains and the two power transmission lines that run above ground both along and across Four Mile Run. A large sanitary sewer underlies portions of Four Mile Run and is exposed in areas from I-395 east to West Glebe Road. Moreover, Washington Gas recently constructed a natural gas line in the corridor to supply the WMATA bus depot.

6. RECREATION FACILITIES

Although the corridor is relatively well-served by parks and open space, there remains a need for additional recreational facilities and greater continuity to connect recreational
FIGURE 2.20: RECREATION FACILITIES

FIGURE 2.21: ARTS AND CULTURE
facilities as part of a cohesive open space network. The study corridor includes twenty-five parks located within or adjacent to the study area, of which five—Four Mile Run Park (South) in Alexandria and Fort Scott Park, Gunston Community Center and Jennie Dean Park in Arlington and Troy Park along lower Long Branch—contain the majority of the recreational facilities. Facilities in the corridor include 11 baseball fields, 7 basketball courts and 5 soccer fields, as well as 4 locations with tennis courts and a volleyball facility. Despite multiple park facilities in the area, both jurisdictions have a need for additional recreational facilities to meet demand. (Figure 2.20)

Recreation facilities also include one community garden on South Glebe Road in Arlington and two dog parks in Arlington. Moreover, the 11 playgrounds in the study area sometimes include picnic shelters, barbecues and seating. Four community centers in the area offer both indoor and outdoor facilities for sports and public gatherings.

There are currently eight on-street and off-street bike trails accessing the Four Mile Run trail. Moreover, the stream is also used for kayaking and fishing, most often in the area below the Mount Vernon Avenue bridge crossing.

7. ARTS AND CULTURE

The neighborhoods around Four Mile Run are increasingly becoming centers of arts and culture, with multiple libraries, movie theaters and performing arts venues within close proximity to Four Mile Run. The Village at Shirlington includes a concentration of movie theaters, restaurants and a public library that attracts many visitors from around the region. The Signature Theatre, a live theater venue just to the north, will soon relocate to a new facility in Shirlington. Other destinations in the corridor include the Birchmere, a nationally-renowned venue for live music, and Potomac Yard, which includes a large multi-screen movie theater in addition to shopping attractions. The presence of so many educational and entertainment venues within walking or biking distance of Four Mile Run presents a variety of opportunities to attract visitors to Four Mile Run as part of the arts and culture experience. (Figure 2.21)

Public art and other artistic and educational enhancements have the potential to transform the stream corridor into a more engaging landscape. The Arlington County Public Art Master Plan proposes future art installations for a number of locations in the corridor. In addition, long-range proposals to address stream restoration and stormwater management themes as part of interpretive and artistic installations in public places represent another opportunity to incorporate art and culture into the Four Mile Run landscape.

The author James Michener once described the South Platte as “a sad, bewildered nothing of a river. too thick to drink, too thin to plow.” This once-neglected riverfront has since been transformed into a well-used greenway system, 17 parks and a waterway with rapids that support recreational rafting and kayaking in the heart of the city. The city reclaimed river banks and adjacent areas, replanted native vegetation and eliminated 250 direct sources of pollution. In the process, the revitalized riverfront helped spur nearby development, including a flagship REI store, professional sports facilities, museums, and an aquarium.
At the outset, the JTF and ACG began with the shared conviction that broad community participation at every stage of the master planning process was essential to achieving a restored and revitalized Four Mile Run corridor.