The Potomac Yard Development and the Water Quality of the Potomac River

Presented to the Arlingtonians for a Clean Environment

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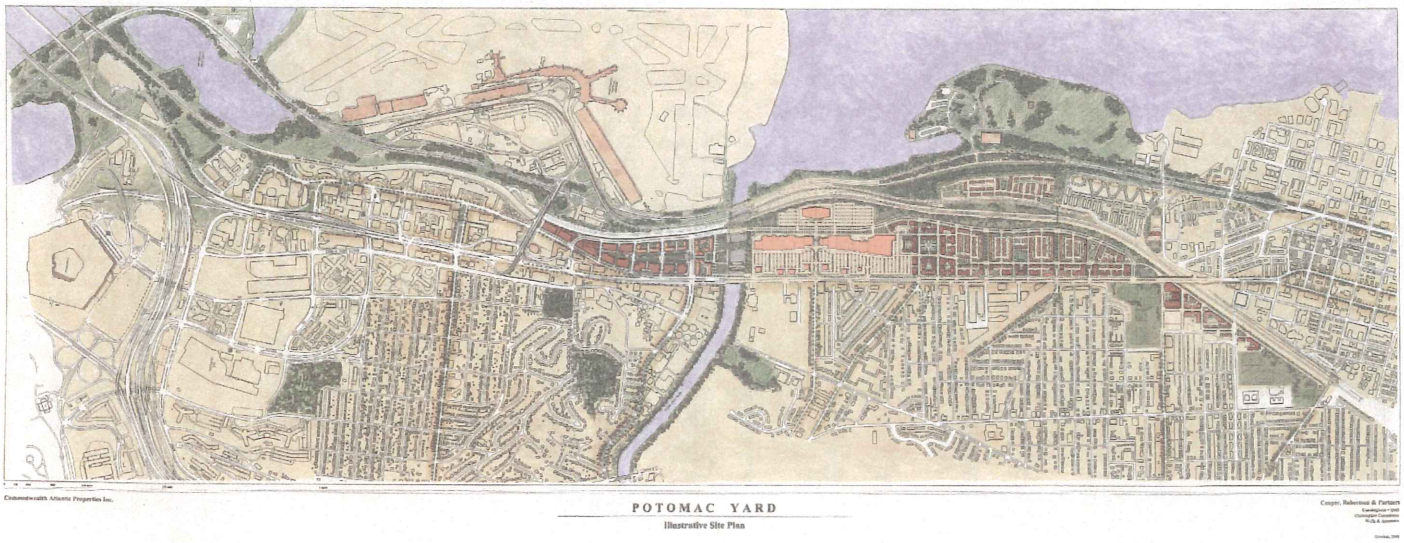
March 9, 2005



Historic Perspective of Potomac Yard

1848 Richmond Fredericksburg and Potomac Railroad (RF&P) buys the site.

1982 Army Corps of Engineers constructs new railroad bridges and channelizes for Mile Run as a flood control project.

1990 RF&P decommissions the rail yard and moves CSX's mainline to the eastern side of the site.

1998 RF&P constructs the Potomac Yard Retail Center.

1999 City of Alexandria approves Coordinated Development District zoning for a mixed-use development.

2000 Arlington County approves Phased Development Site Plan zoning for a mixed-use development.

2001 Crescent Resources purchases the undeveloped 300-acre Potomac Yard site from RF&P railroad (88 acres in Arlington and 212 acres in Alexandria).

2002 Crescent transfers the 28-acre "North Tract" site to Arlington County.

2003 Crescent completes the 1.7-mile Trunk Sewer Project in Alexandria.

2003 Crescent begins construction of the Arlington Infrastructure.

2004 Crescent begins construction of Land Bay A in Arlington, a 654,000 sf, office project that is two-thirds pre-leased to the US Environmental Protection Agency.

POTOMAC YARD
THE GREEN CITY

Sanitary Sewer and Waste Water Treatment at Potomac Yard

Crescent's Plan and Implementation

Sanitary Sewer Improvements: Alexandria

The Potomac Yard Trunk Sewer and Phase I Collection System provide a dedicated sanitary sewer service for the Alexandria portion of the Potomac Yard Development. The trunk sewer is slightly less than two miles in length and is a gravity service directly to the Alexandria Treatment Facility. Phase II includes a force main to connect the City-owned Four Mile Run Pump Station to the gravity service.

Currently a large portion of the sewer system in Alexandria is combined storm water and sanitary sewage. During storm events the system is surcharged with excess amounts of storm water creating unavoidable discharges into the Potomac River, via the Four Mile Run Pump Station. The Potomac Yard Trunk Sewer was designed with approximately 5 million gallons of excess capacity, approximately 50% of the total capacity that will enable the City of Alexandria to divert flow into the sewer system thereby eliminating storm discharges directly into the River.

The Potomac Yard Trunk Sewer was also designed with excess capacity to eliminate one existing lift station.

Sanitary Sewer Improvements: Arlington

The Arlington portion of the project also includes a dedicated sanitary sewer system and lift station. The lift station was designed with approximate 50% additional capacity enabling Arlington County to decommission one existing lift station.

Storm Sewer Improvements: Alexandria

Storm water runoff from Potomac Yard enters the Potomac River via several piped outfalls. Most of these outfalls were installed at the turn of the century during the build up of the sites use as a rail yard. During decommissioning of the Yard in the early 1990's, the site's owner was required to close several of the outfalls to eliminate migration paths of site contaminants. One outfall to remain active was poorly maintained and silted over rendering it ineffective. Phase I of the storm water management plan included upsizing and re-channelizing the existing outfall. This project was completed in 2003.

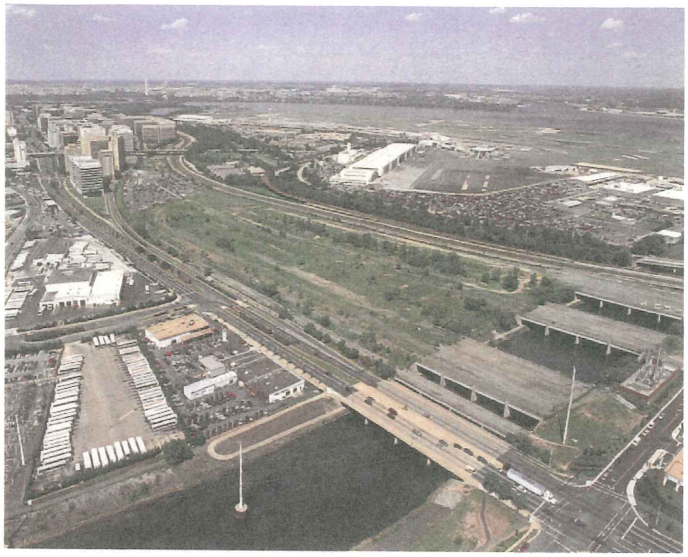
As part of Alexandria's Master Storm Water Quality Management Plan, the project's ultimate development includes plans for a new storm sewer system with integrated BMP's (sand filters) to treat storm water runoff prior to discharge into the Potomac River. Once in place, the new and upgraded storm water management system will significantly improve the water quality discharged into the Potomac River.

Storm Sewer Improvements: Arlington

Similar to the Alexandria Master Storm Water Quality Management Plan, the Arlington portion of the project includes a complete overhaul of the storm sewer system. Completed as part of the Arlington improvements, the project includes approximately 1.5 miles of new storm system and two new outfalls into Four Mile Run. The new outfalls enable the decommissioning of the two outfalls used during the site's rail history. The new storm sewer will connect to each site's BMP facility creating a master system that significantly upgrades the water quality prior to discharge. Currently three buildings are under construction, each with integrated BMP facilities designed into the structure

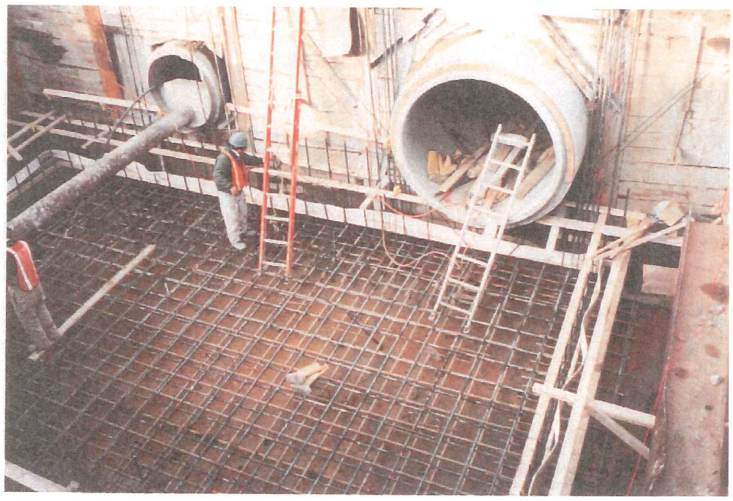
Soil Management Plan

Redevelopment of an existing rail yard poses many challenges related to the management of impacted and contaminated soils. To ensure development was in accordance with the law, Crescent prepared a soil management plan. The plan was reviewed and approved by VDEQ. The plan outlines parameters for soil quality for reuse on site. The plan also identifies and characterizes soils with elevated levels of contamination for off-site disposal. Through the first phase of construction, over 40,000 tons of impacted soil has been removed from the site. The removal of impacted soil significantly improves the adjacent lands to Four Mile Run and Potomac River. It should be noted that no material on the site is hazardous and poses any threat to the watershed.



Arlington, South Tract—May 2002

Alexandria, South Yard Tail—May 2002

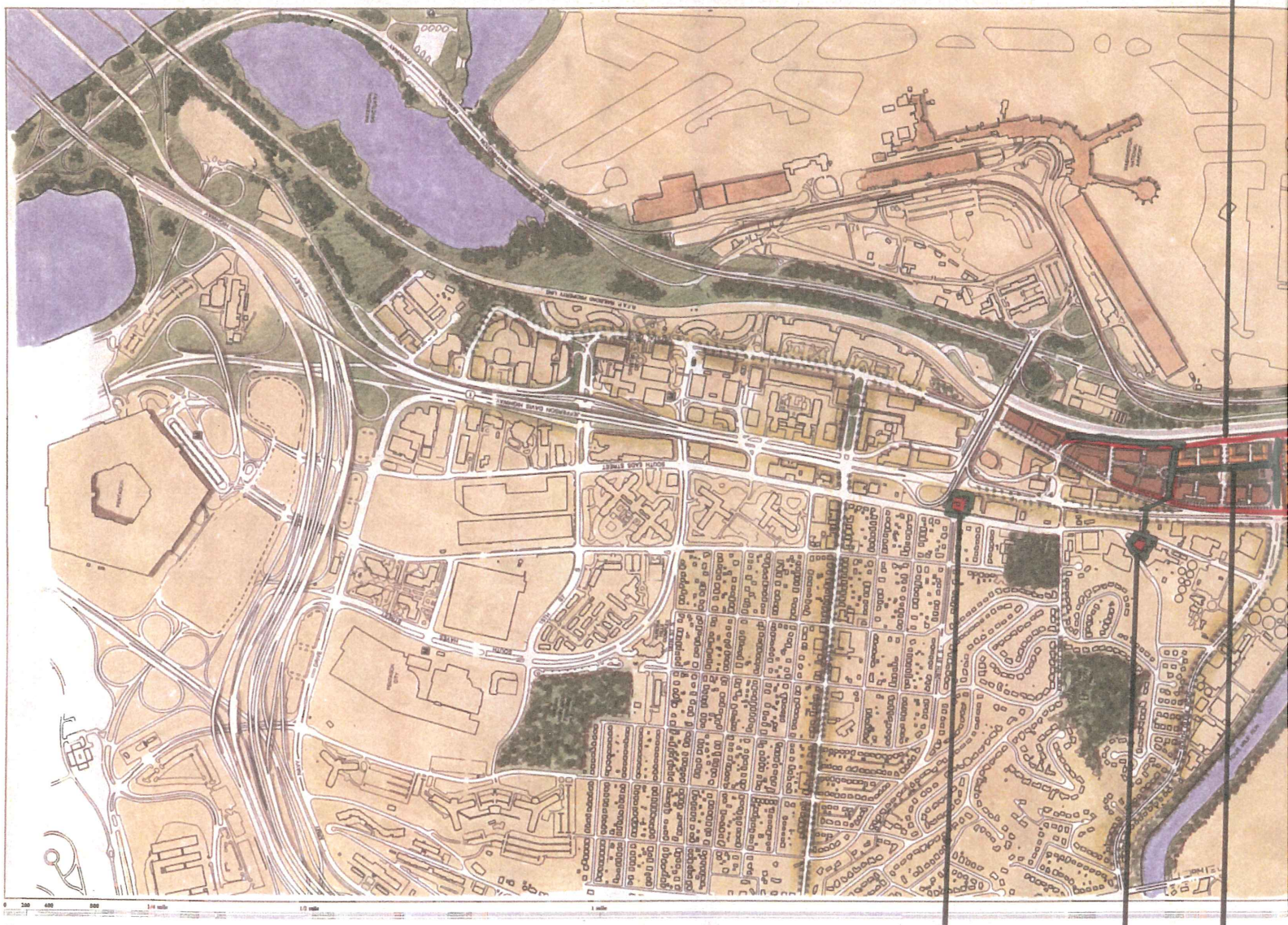


Alexandria New Outfall Structure, October 2002

Alexandria New Outfall Channel , April 2002

NEW OUTFALLS COMPLETE

NEW STORM SEWER COMPLETE



Commonwealth Atlantic Properties Inc.

POTOMA

Illustrat

NEW PUMP
CON

EXISTING
PUMP STATION
TO BE DECOMMISSIONED

- PUMP STATION
- PROPOSED FORCED MAIN
- NEW SANITARY
- PROPOSED SANITARY
- OUTFALL
- NEW STORM
- PROPOSED STORM

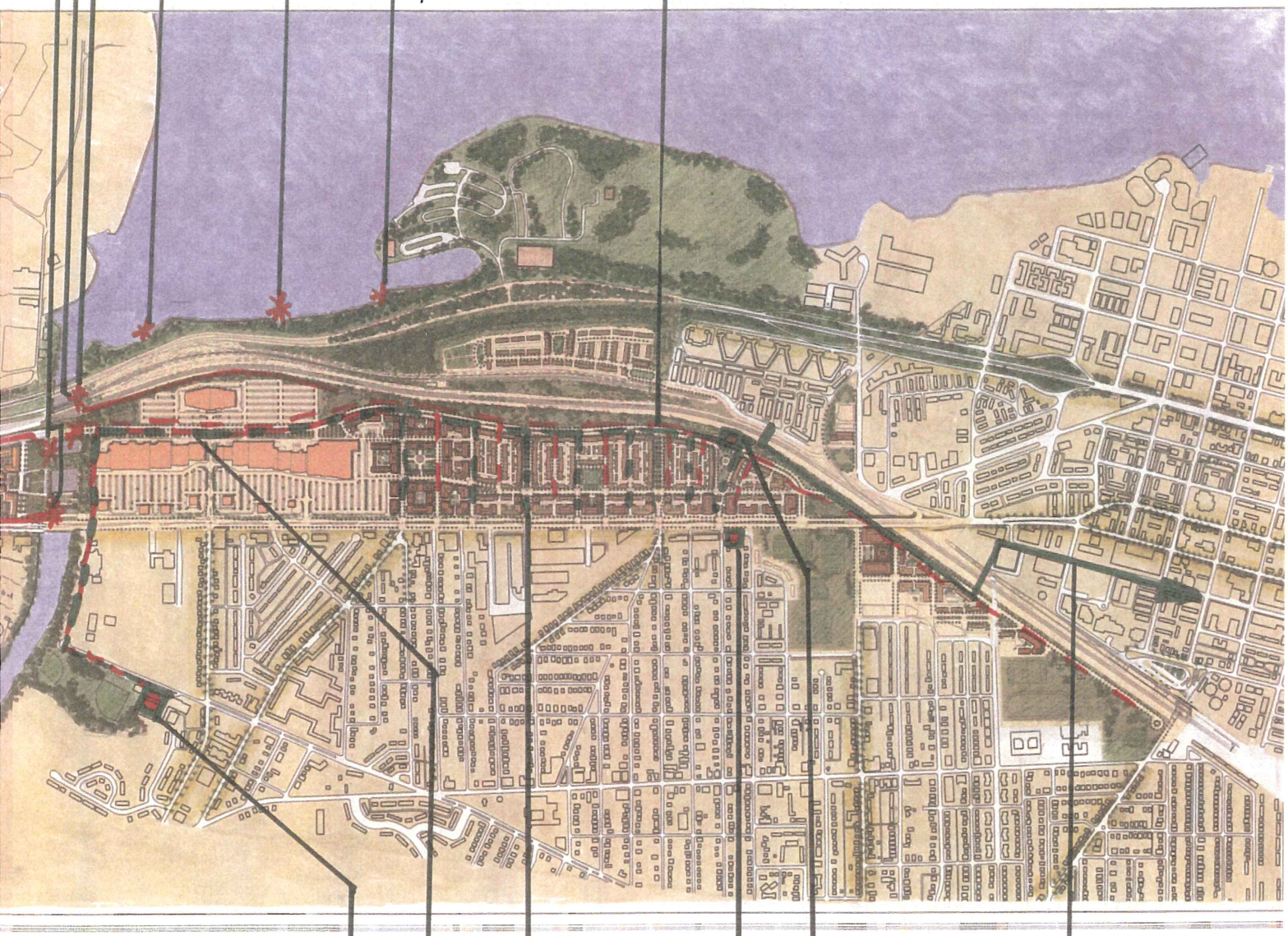
PROPOSED NEW OUTFALL

EXISTING OUTFALLS

RENOVATED OUTFALL

EXISTING OUTFALL

PROPOSED NEW STORM SEWER



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Cooper, Robertson & Par
Cunningham
Christopher Cou
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SANITARY SEWER COMPLETE

STATION PLETE

PROPOSED FORCED MAIN

PROPOSED SANITARY SEWER

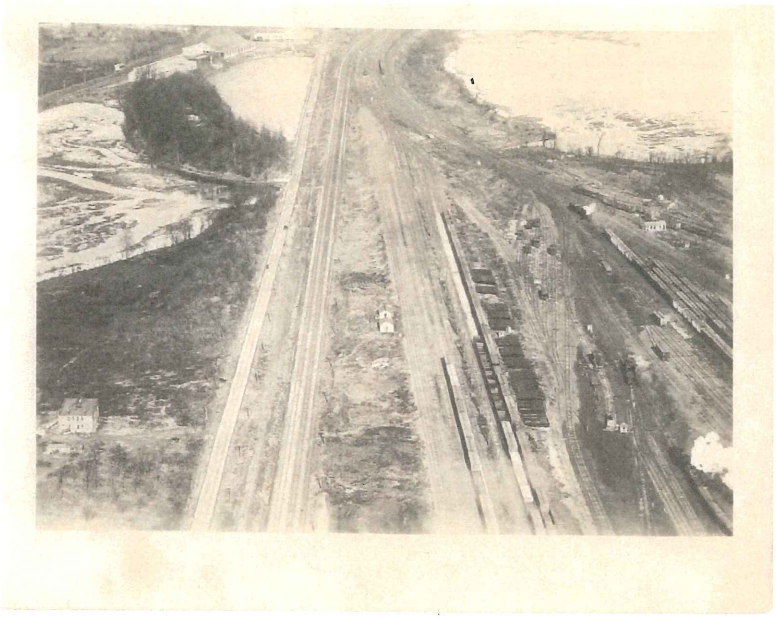
PROPOSED PUMP STATION

NEW TRUNK SEWER TO TREATMENT PLANT COMPLETE

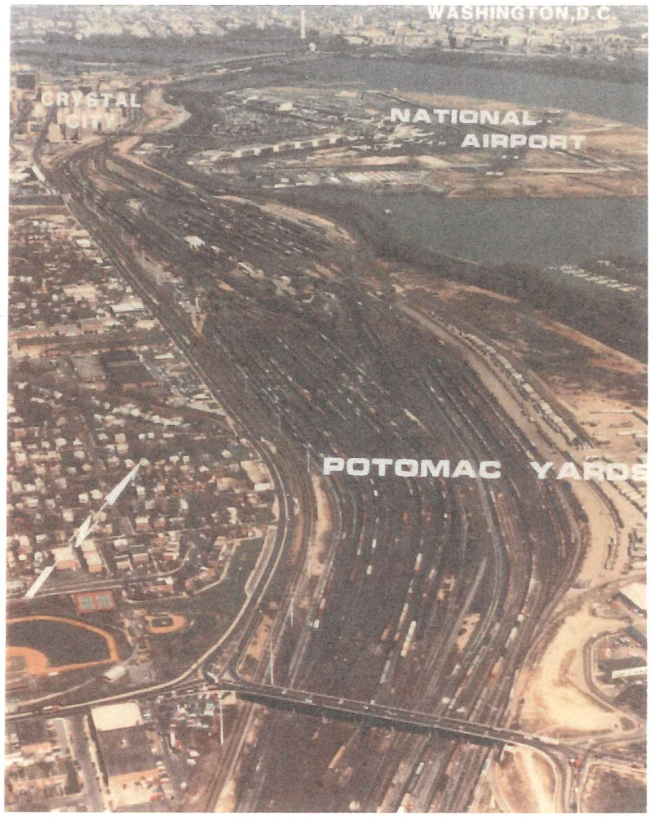
EXISTING FOUR MILE RUN PUMP STATION

EXISTING PUMP STATION TO BE DECOMMISSIONED

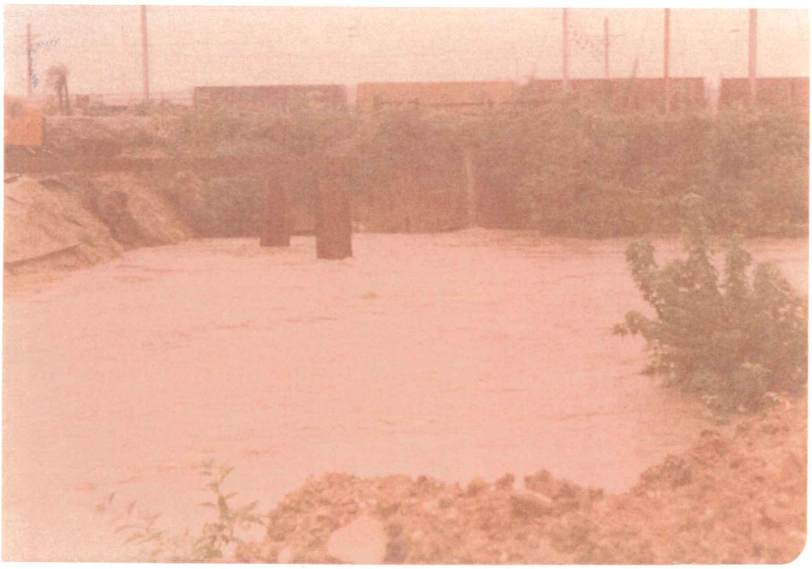
Photos of the Potomac Yard Project 1922—2005



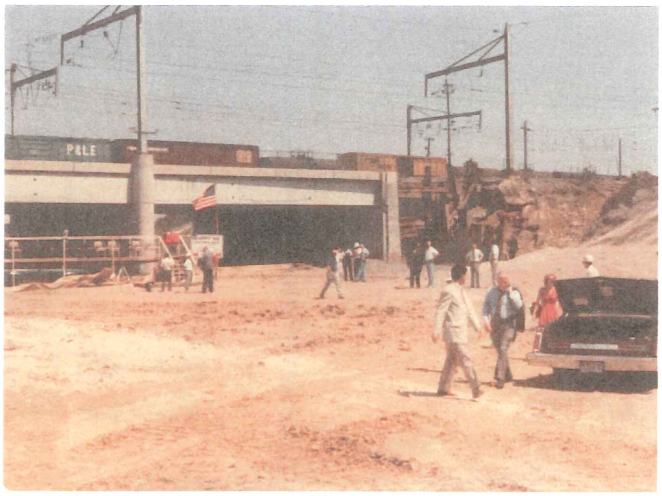
Potomac Yard Rail Corridor 1922—looking north



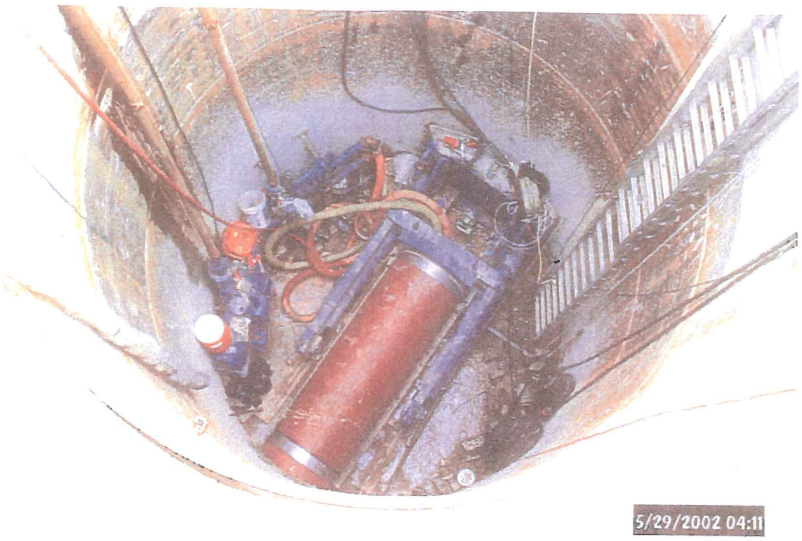
Potomac Yard Rail Corridor—looking north circa 1980



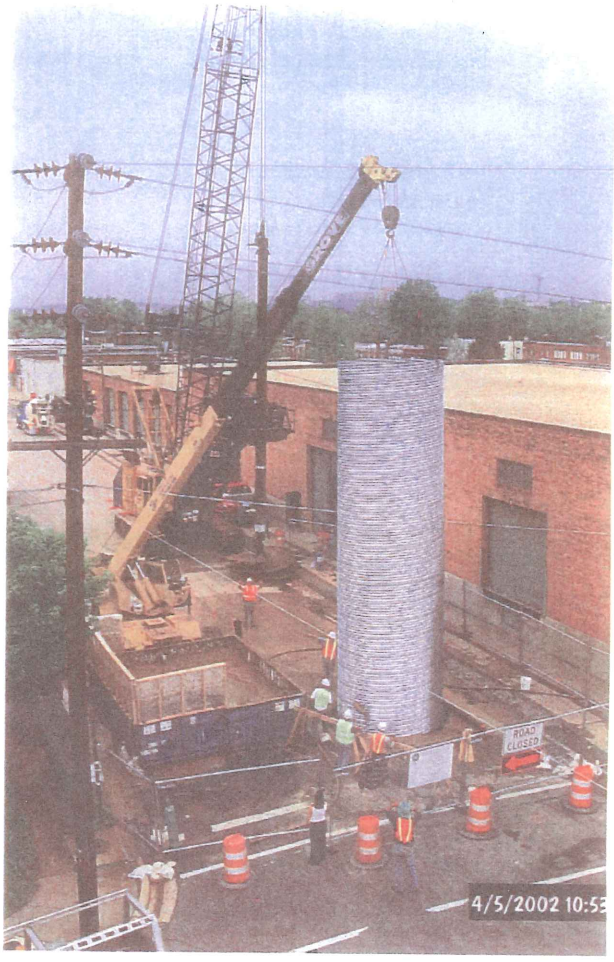
Four Mile Run, old channel, circa 1970



Four Mile Run Channelization Project, circa 1982

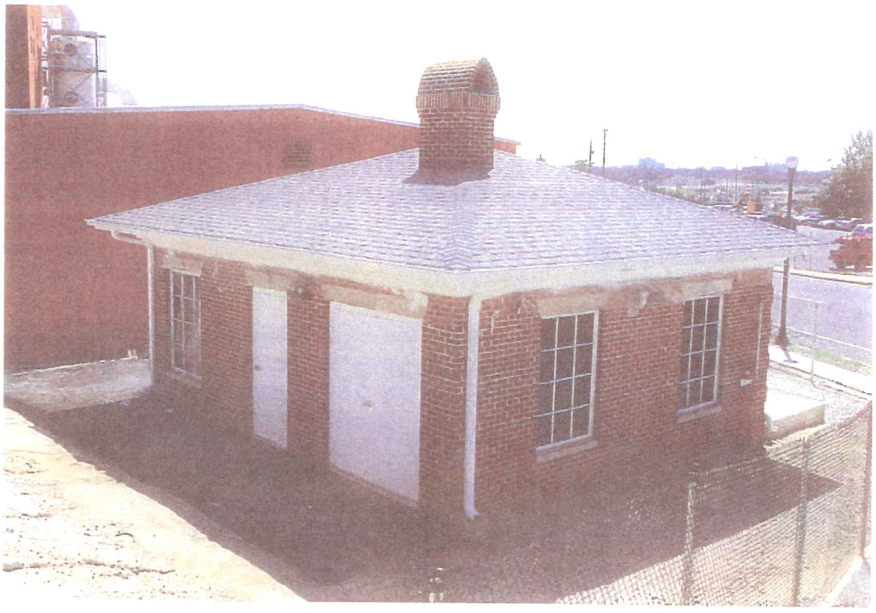


Alexandria Trunk Sewer, installing sewer pipe by microtunneling, May 2002



Alexandria Trunk Sewer, installing the shaft, April 2002

Arlington Infrastructure—March 7, 2005



Arlington Pump Station— August 2004

Cost of Improvements

Crescent has been directly responsible for over $28,000,000 worth of improvements that have directly or indirectly improved the quality of water entering the Potomac River Watershed:

Alexandria Trunk Sewer	$13,000,000
Arlington Pump Station	$2,700,000
Arlington Infrastructure	$10,700,000
Alexandria Outfall	$1,000,000
Building-integral BMPs	$2,000,000

Future development will add approximately $100,000,000 worth of infrastructure improvements, $21,000,000 of which will directly impact water quality:

Alexandria Pump Station	$6,000,000
Alexandria Storm Sewer System	$6,000,000
Four Mile Run Force Main	$2,000,000
Future BMPs	$7,000,000

Environmental Consultants

GeoSyntec Consultants: Evaluation of Cinder Ballast Management Options and Various Field Studies

Earth Tech Inc.: Soil Characterization and Management Plan, Phase I Environmental Site Assessment, Various Land Bay Characterization Reports, Air Monitoring Report, Draft Contingency Plan, and Various Field Studies

TRC Vectre: Environmental Review Report

Environmental Technology of North America: Extent of Contamination Study

Weinberg Consulting Group, Inc.: Human Health Risk Assessment and On-Site Ecological Assessment

James Thornhill, McGuire Woods LLP: Legal and Regulatory Consultation

Ron Santini, Scientist, Engineering and Technical Services, Duke Energy Corporation: Environmental Consultant

Over 256 documents on Potomac Yard can be found on the web site of the US EPA Region III Hazardous Site Clean-up Division, Administrative Records. The web site address is:

http\\:loggerhead.epa.gov\arweb\public\advanced_search.jsp

At the site, enter "Virginia" then "Richmond Fredericksburg and Potomac Railroad" and then Potomac Yard"

CRESCENT RESOURCES LLC

Crescent Resources, LLC, formed by Duke Energy, is a land based management and real estate development company with land interests in eight states in the southeastern and southwestern United States. In a wide spectrum of success stories, Crescent Resources is recognized for its award-winning, mixed-use projects, country club communities, neighborhoods, apartment and condominium communities, build-to-suit corporate headquarters, regional offices, manufacturing and distribution facilities, Class A office space, business and industrial parks, and shopping centers.

Throughout its 30-year history, Crescent Resources has exemplified a commitment to the communities it serves. Promoting strong environmental guidelines, adhering to, and exceeding stringent standards set by regulatory agencies is its hallmark. Yet being a good neighbor involves more than enduring, protective practices. Crescent is a committed to improving the quality of life for the people who live, work, and play in these environments.

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