

## ENVIRONMENTAL FACT SHEET – MARCH 2008 THE PROPOSED MUNICIPAL MIDDLE SCHOOL SITE

HAMLET AVENUE, FLORENCE DRIVE, AND VILLA NOVA STREET  
WOONSOCKET, RHODE ISLAND

### Introduction

The City of Woonsocket (the City) has identified the future location of two middle schools to be constructed to replace the existing middle school at Park Place. This location is a 19-acre group of formerly industrial properties located at Hamlet Avenue, Florence Drive, and Villa Nova Street in Woonsocket (the site).

As part of the middle school replacement project, the City hired Fuss & O'Neill, Inc. to assess the environmental quality of the site and identify, design, and oversee remediation measures that must be conducted prior to redevelopment. City officials and Fuss & O'Neill have been working closely with the Rhode Island Department of Environmental Management (RIDEM) and the United States Environmental Protection Agency (USEPA) to completely assess the site and develop a remediation plan that will allow these underutilized properties to be transformed into a state-of-the-art middle school campus that will be safe for generations of local students and educators.



Throughout the initial stages of the project, the City has strived to ensure that local citizens remain informed about environmental issues at the site, have an opportunity to express concerns and ask questions about these issues, and stay involved in decisions related to remediation of the site. This fact sheet has been developed as part of the City's on-going initiative to maintain communication and public participation during the middle school replacement project.

### Site History

The site was initially developed in the 1890s and early 1900s. Much of the historical activities that took place at the site involved the textile industry. Companies including the Lafayette Worsted Company, the River Spinning Company, Guerin Mills Inc., the Lordinan Worsted Company, and the Argonne Worsted Company owned and occupied industrial facilities throughout the site between the turn of the 20<sup>th</sup> century and the 1960s. Textile production activities performed at the site during this time period included fabric dyeing and processing of raw materials such as cotton and animal hides. By the late 1960s, much of the site was owned and occupied by American Copper Sponge, later referred to as ACS Industries. At industrial facilities located along Hamlet Avenue, ACS Industries produced cleaning supplies including plastic scouring pads and metal automobile parts such as catalytic converters. Industrial activities at these facilities had generally ended by the early 2000s. ACS Industries also owned and occupied a wire-drawing and industrial knitting facility located at Villa Nova Street and Florence Drive. This facility was still in operation when it was destroyed by fire in 2003.

The 2003 fire also destroyed a textile dyeing facility located along Florence Drive and occupied by Capeway Yarns and Florence Dye Works. A second fire in 2006 destroyed the former FDS Industries and Forte Cashmere facility located at the western portion of the site.

The City is in the process of acquiring all of the parcels that will be necessary to complete the proposed middle school project.

## Environmental Assessments and Existing Issues

Prior to its selection as the location for the new middle schools, numerous environmental investigations had been performed at the site. These investigations were performed between 2000 and 2006 on behalf of a variety of different parties including the City, ACS Industries, and RIDEM. The results of the assessments indicated multiple environmental issues, including heating oil which had leaked from underground storage tanks (USTs) and chemicals released during the 2003 fire were identified. In 2007, the City retained Fuss & O'Neill to perform additional, comprehensive assessments to further characterize the site. In



In total, the completed investigations have included the drilling of 181 soil borings, the construction of 67 ground water monitoring wells, and the collection of 340 soil samples, 138 groundwater samples, and 69 soil gas samples. Based on the results of these assessments, the following environmental issues were identified:

- Petroleum in soil: No. 6 heating oil, a thick and viscous type of petroleum, was present in subsurface soil at four separate locations due to releases from USTs currently or formerly present at the site. Also, soil at two other locations contained concentrations of petroleum, including cutting oil used in industry as a lubricant, which exceeded applicable RIDEM soil standards. The impacts at these two areas were likely related to historical releases that occurred during the 2003 fire or industrial activities at the site.
- Urban fill-related compounds in soil throughout the site: Soil throughout the site contained concentrations of compounds, including semi-volatile organic compounds and metals that exceeded applicable RIDEM soil standards. The presence of these compounds was likely attributable to historical use of urban fill material, which was commonly used during development at industrial sites throughout the state, particularly at locations near rivers. Urban fill typically consists of materials such as soil, bricks, concrete, and ash.
- Volatile compounds in the environment: A volatile compound known as tetrachloroethene (PCE) was detected at concentrations that exceeded applicable RIDEM standards in groundwater and soil at the site. This chemical was historically used as an industrial solvent at the former wire-drawing facility and may have been released during the 2003 fire. Volatile compounds were also detected in vapor collected from just below the ground surface at the site, mainly in the area of soil and groundwater containing PCE in the central portion of the site. Their presence in shallow soil gas was likely the result of volatilization of compounds associated with historical releases at the site.

## Proposed Remedial Measures

Based on the results of the comprehensive site assessments, Fuss & O'Neill, in coordination with RIDEM and USEPA, have identified the remedial measures detailed below, which will be conducted at the site to address the existing environmental issues. The use of these strategies has been reviewed and approved by RIDEM to clean up the site to RIDEM's residential regulatory standards to allow use of the site as a school.

- **Excavation and on-site recycling:** The soil containing petroleum will be excavated and recycled by adding asphalt emulsions and cement to generate an asphalt-like material which can be used on-site as structural fill and base material beneath paved areas. This treatment will remove the health and environmental risks associated with the potential for the petroleum to migrate to and degrade groundwater beneath site.
- **Soil capping:** An engineered soil cap will be constructed across the site to prevent exposure of site users to existing urban fill. This method will ensure that soil at the surface of the site will consist of up to two feet of clean and suitable material.
- **Excavation and off-site disposal:** Soil at the site that contains PCE will be excavated and disposed off-site at an appropriate disposal facility.
- **Reductive dechlorination:** Groundwater at the site that contains PCE will be treated through a process known as reductive dechlorination. This process includes injection of a lactate-based solution into the subsurface within the area of impacted groundwater. The mixture stimulates the activity of naturally occurring bacteria present in the subsurface, which then breakdown the solvent in groundwater. This method will eliminate the groundwater contamination by destroying the contaminant, ultimately transforming the PCE into harmless compounds.
- **Ventilation and vapor barrier system:** This system will be installed within the foundations of the middle school buildings. This system will act as a redundant safeguard which will block and redirect any soil vapors that could potentially migrate from the subsurface into overlying structures. This system will remove the potential for vapors to enter and collect in the buildings, thus eliminating the potential risk of these constituents.

## End Use of the Site

Upon completion of environmental remediation and redevelopment activities, the campus will include two free-standing middle schools surrounding an athletic complex and parking areas in the central portion of the site. A bike path will connect the existing foot bridge that crosses the Blackstone River to Hamlet Avenue. To help preserve the historical character of the site, two small buildings located along Hamlet Avenue will be saved and renovated at a later date and will be retained as part of the campus. These buildings include a former office building that will be converted to an alternative education facility and a former guard house.



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The schools will open upon the completion of the active remediation activities to the satisfaction of the City and RIDEM

Monitoring of indoor air and groundwater at the site will continue at regular intervals to verify the effectiveness of remediation measures and ensure that the site remains safe for all users.

#### Anticipated Project Schedule

- Building demolition –February through April 2008
- Remediation and construction –April 2008 through December 2009
- Schools open –January 2010

#### Contact Information

For additional information please contact Ms. Catherine Ady ([cady@woonsocketri.org](mailto:cady@woonsocketri.org)), Woonsocket City Planner at 401-767-1418 or Mr. Jeff Crawford ([jeff.crawford@dem.ri.gov](mailto:jeff.crawford@dem.ri.gov)) of RIDEM at 401-222-2797 extension 7102.