



## FACT SHEET

### CITY OF NEW BEDFORD'S ENVIRONMENTAL INVESTIGATION OF THE NEW BEDFORD HIGH SCHOOL BUILDING AND CAMPUS

City of New Bedford/TRC, July 2010

This fact sheet describes what has been done to determine that it is safe for people to occupy the New Bedford High School and use the campus. The fact sheet identifies the issues currently being studied at New Bedford High School, summarizes the investigation findings to date, and presents the next steps planned for the ongoing investigations. Terms in bold are defined in the Glossary of Terms at the end of the Fact Sheet.

#### **It is safe for people to occupy New Bedford High School and use the campus around the school.**

Inside the high school, TRC Environmental Corporation (TRC), the City's environmental consultant, evaluated the levels of **polychlorinated biphenyls (PCBs)** and **volatile organic compounds (VOCs)** in indoor air and determined that there is no significant risk to the health of building occupants. This evaluation was based on criteria established by the Massachusetts Department of Environmental Protection (MassDEP), as well as criteria for PCBs approved by the U.S. Environmental Protection Agency (EPA). The evaluation assumed that someone spends 8 hours per day, 5 days per week for 27 years in New Bedford High School.

Outside the high school, staff, students, and visitors use the campus for various reasons. Activities include people walking across the campus, participating in outdoor gym classes, or cutting grass. TRC considered how people use the campus in evaluating whether people could potentially be exposed to chemicals in the surface soil (soil that is not beneath pavement). TRC determined that the potential exposures to surface soils do not pose a significant risk, considering the possibility of inhaling dust, eating a small amount of surface soil, and coming into skin contact with surface soil. In reaching this conclusion, TRC considered how often and at what intensity high school staff (such as faculty and maintenance personnel), students, and visitors may use the campus.

#### **Studies Being Conducted**

On behalf of the City, TRC is conducting three studies related to the building and campus: 1) evaluation of building materials and furnishings that may contain **PCBs**, development of plans to address these materials and furnishings, and removal of certain materials and furnishings; 2) investigation of groundwater (water located beneath the ground in spaces in the soil) that may enter, or "seep" into New Bedford High School rooms used by maintenance staff; and 3) assessment of soil at the New Bedford High School.

#### **Description of Investigation Findings**

**Building materials and furnishings.** Some building materials at the high school contain **PCBs** at levels regulated by EPA. The City is investigating and removing certain PCB-containing materials. **PCBs** have been detected in indoor air, but these levels were reduced after cleaning and adjusting the ventilation

system, and removing **PCB**-impacted dust in 2007 and 2008. The City is continuing to investigate potential sources of **PCBs** detected in indoor air and options for removing sources.

**Investigation of groundwater seeping into basement rooms.** TRC is investigating groundwater containing **VOCs** that seeps into the high school mechanical room used by maintenance staff. TRC has focused its investigation on whether **VOCs** may be entering the high school from beneath the school. As part of this investigation, TRC sampled indoor air during February and April of this year. Sampling occurred when the building ventilation system was not operating, when concentrations of **VOCs** in indoor air are expected to be higher than during normal ventilation conditions. Low concentrations of **VOCs** were detected in air during each round of sampling; however, they do not pose a significant risk to the health of building occupants based on criteria established by the Massachusetts Department of Environmental Protection (MassDEP). The City continues to investigate the sources of these **VOCs**. Some might come from beneath the building, while others might come from **VOC**-containing products used inside the building, such as cleaning materials. Despite TRC's evaluation, which determined that there is no significant risk, further assessment of the presence of **VOCs** in indoor air is underway to confirm these findings.

**Assessment of surface soil on the high school campus.** TRC has collected approximately 273 soil samples from within the top foot of soil at the high school campus. Samples were tested for **arsenic, lead** and other metals, **PCBs** and **polyaromatic hydrocarbons (PAHs)**; these results have been compared with Massachusetts Department of Environmental Protection (MassDEP) soil cleanup standards. A subset of these samples was tested for **dioxin** and **dioxin-like compounds**. The **dioxin** and **dioxin-like compounds** are also compared to MassDEP soil cleanup standards, and in this case MassDEP's background concentration for **dioxin** in soil, since the results are close to, and in several cases below, what MassDEP considers background.

These chemicals also were detected in soil samples collected from depths greater than one foot below the ground surface and from soil under pavement (over 1,000 soil samples have been collected from NBHS to date). People would not contact the soils below the top foot or below pavement unless an extensive excavation or disruption of paved areas occurred as part of a future redevelopment or maintenance project.

### **The Next Steps**

**Building materials and furnishings.** The City has already begun removing building materials that require removal under EPA's regulations. It will complete this work during the 2010 and 2011 summer vacation periods in accordance with plans approved by the EPA.

**Groundwater seep.** TRC will continue to address potential **VOC** movement to the indoor air as follows:

- Complete the assessment of seep mitigation options for the Mechanical Room seep;
- Evaluate the effects of ventilation system operation on the levels of **VOCs** in indoor air in NBHS;
- Repeat indoor air testing in selected locations;
- Evaluate options for remediation of groundwater containing **VOCs** near the NBHS; and
- Perform additional sampling of other media (e.g., soil vapors and groundwater) as appropriate.

**High School Campus Soil.** The City is developing a plan to address impacted soil on the high school campus, which includes soil removal and consolidation activities, and placing activity and use limitations (AULs) on portions of the property. These measures will achieve a condition of No Significant Risk for soil exposures for the NBHS campus.

### **For More Information**

Data related to the three studies underway at the high school are posted at the City's website <http://www.newbedford-ma.gov/McCoy/sitemap/sitemap.html> in the "New Bedford High School (NBHS)" section. Details about TRC's investigation of materials containing PCBs are provided in the March 2010 *Removal and Abatement Plan: New Bedford High School Building Interior PCB Removal & Abatement Plan*. Details about TRC's investigation of groundwater seeps are provided in a Fact Sheet (*Groundwater Seep Investigation Fact Sheet and Sampling Results – March 2010*) and the March 2010 *Immediate Response Action Plan* for RTN 4-22409. Details about the investigation of soil on the campus are provided in *Parker Street Waste Site - Interim Phase II Comprehensive Site Assessment*. Data regarding the soil samples TRC collected for dioxin analysis are provided as part of the July 2010 *Memorandum: Explanation of Dioxin Toxic Equivalents (TEQs)*.

All of these documents are posted on the City's website. If you have additional questions, please contact Cheryl Henlin, City of New Bedford Environmental Stewardship Department, at (508) 991-6188 or email [cheryl.henlin@newbedford-ma.gov](mailto:cheryl.henlin@newbedford-ma.gov)

## **GLOSSARY OF TERMS**

**Arsenic** – A chemical element which occurs naturally in the environment. Arsenic was historically used for a variety of purposes, including wood preservatives, herbicides (weed killer), pesticides, and medicine.

**Dioxin** – This term is commonly used to refer to the compound 2,3,7,8-tetrachlorodibenzo-*p*-dioxin. It is also sometimes referred to as 2,3,7,8-TCDD. Dioxin is found everywhere in the environment and is released through nature processes, such as forest fires and volcanic eruptions, and through industrial processes, such as combustion of industrial waste or chemical manufacturing.

**Dioxin-like compound** – These compounds are commonly detected in the environment along with dioxin and can cause adverse effects in the same way as dioxin, although most are less harmful than dioxin.

**Lead** – A chemical element which occurs naturally in the environment. Lead is used in building construction, lead-acid batteries, bullets and shot, weights, and is part of solder, pewter, and alloys, and was formerly utilized in paints.

**Polyaromatic hydrocarbons (PAHs)** – A group of over 100 different chemicals formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. PAHs are usually found as a mixture containing two or more of these compounds, such as soot.

Some PAHs are manufactured. PAHs are found in coal tar, crude oil, creosote, and roofing tar, but a few are used in medicines or to make dyes, plastics, and pesticides or are components of petroleum.

**Polychlorinated biphenyls (PCBs)** - Mixtures of up to 209 individual chlorinated compounds. There are no known natural sources of PCBs. Some PCBs can exist as a vapor in air to a limited extent. PCBs have no known smell or taste. PCBs have been used as coolants and lubricants in transformers, capacitors, and other electrical equipment because they do not burn easily and are good insulators. The manufacture of PCBs was stopped in the U.S. in 1977. Products made before 1977 that may contain PCBs include: certain building materials, such as caulking, paint, adhesive and fluorescent lighting fixtures; electrical devices containing PCB capacitors and transformers; and hydraulic oils.

**Volatile organic compounds (VOCs)** – VOCs include a variety of chemical compounds given off as gases from certain solids or liquids. VOCs are given off by a wide array of products numbering in the thousands. Examples include: paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions. Fuels/petroleum products contain VOCs. All of these products can release VOCs when in use, and, to some degree, when stored.