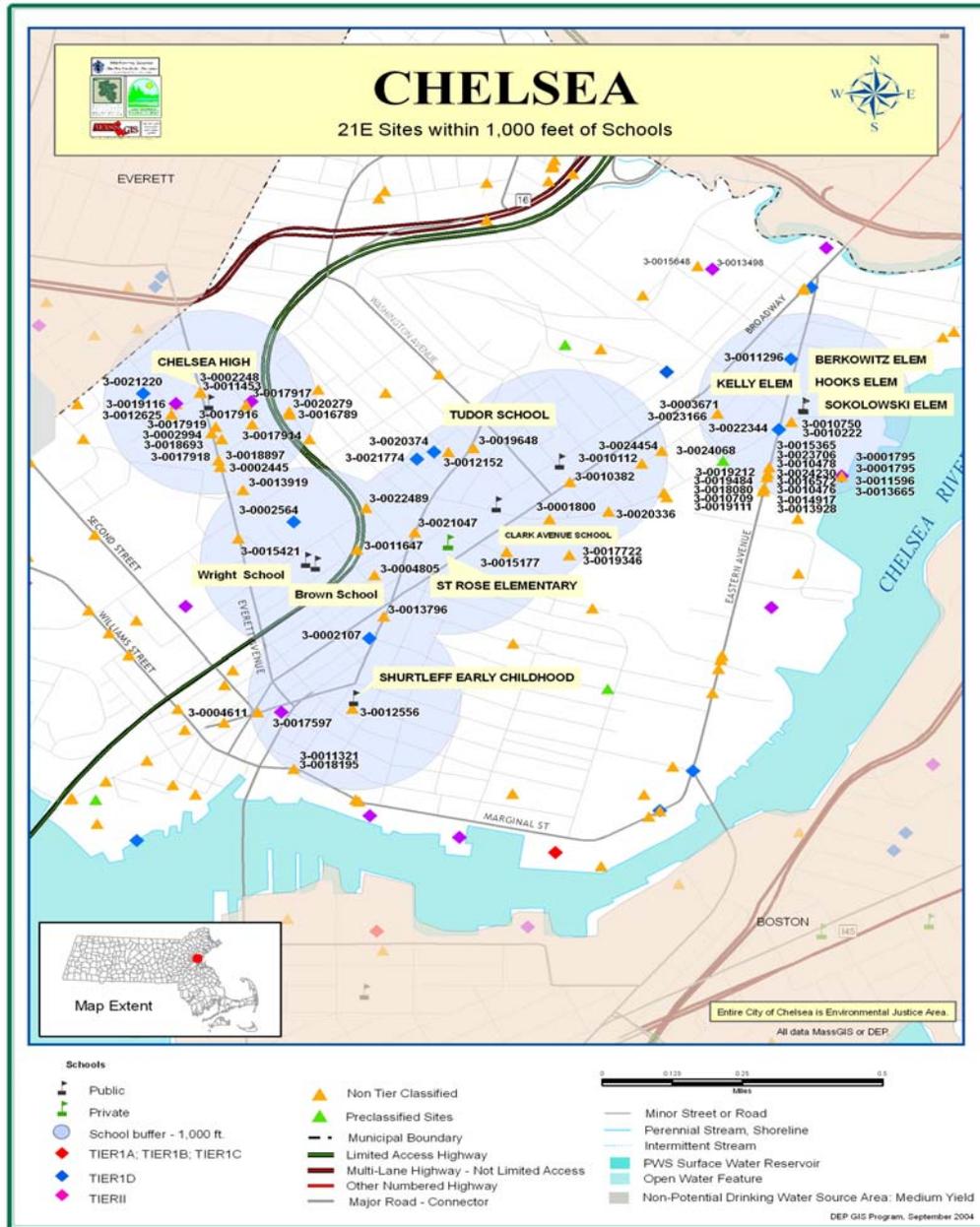


AN INVESTIGATION TO DETERMINE WHETHER WASTE SITES ARE AFFECTING SCHOOLS IN CHELSEA, MASSACHUSETTS



Prepared by the Bureau of Waste Site Cleanup
Massachusetts Department of Environmental Protection
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EXECUTIVE SUMMARY

The mission of the Massachusetts Department of Environmental Protection (DEP) is to protect and enhance the quality of the Commonwealth's natural resources – its air, water and land – in order to protect the health, safety and welfare of its citizens. DEP's Bureau of Waste Site Cleanup is charged with ensuring timely and effective responses to over 2,000 environmental emergencies such as oil spills and chemical fires each year as well ensuring that cleanups that are already underway are completed at more than 6,000 contaminated properties across the Commonwealth. The regulations that govern the investigation and cleanup of chemical spills and contaminated property in Massachusetts are known as the Massachusetts Contingency Plan (the MCP).

DEP conducted a targeted exposure potential and compliance evaluation of MCP sites and facilities that generate hazardous waste in the City of Chelsea to determine if they have the potential to adversely impact the health, safety and welfare of school children, a particularly sensitive receptor group. DEP evaluated all response actions conducted at MCP sites located within 1000 feet of Chelsea schools. The MCP sites in the study area were prioritized based on the likelihood that soil or groundwater contamination might pose risk to children. Highest priority was given to releases that could impact indoor air in nearby schools or homes and sites where children might come into contact with contaminated surficial soil or could be exposed to fugitive dust blowing off-site.

DEP identified a total of sixty-four (64) reported releases of oil or hazardous materials at locations within 1000 feet of eleven (11) schools in Chelsea.

DEP's exposure potential evaluation determined the types and concentrations of chemicals released at a site and whether or not the chemicals impacted soil, groundwater or air quality, and ultimately, whether any "sensitive receptor" (such as a child) could be exposed to or come into contact with environmental contamination. DEP designed the compliance evaluation to determine whether the parties legally required to clean up the MCP sites were conducting response actions in accordance with MCP performance standards and cleanup deadlines.

To implement the exposure potential and compliance evaluations, DEP conducted file and data reviews, audited cleanup reports, and evaluated the compliance status of the parties required to clean up the MCP sites identified throughout the study area. DEP also conducted targeted inspections of selected facilities that generate hazardous waste in the study area.

The exposure potential evaluation revealed the following:

- No sites were found that pose a health risk to nearby residents or school children as a result of a direct contact hazard or airborne dust from surficial soil contamination;

- No site conditions were found that could pose a health risk as a result of indoor air contamination caused by vapor migration from contaminated groundwater into nearby homes or schools; and
- Drinking water is not a potential exposure pathway since Chelsea is served by a water supply system that obtains its water from the Massachusetts Water Resource Authority (MWRA) system.

The compliance evaluation showed that response actions conducted by parties responsible for the contamination have been conducted properly at the majority (84%) of sites within the study area. Although site conditions were not found to pose risk to schools or nearby residents, DEP identified ten (10) sites where response actions were found to be inadequate or behind schedule. Enforcement actions were initiated in order to get the parties responsible for the cleanups back on schedule. As a result of its enforcement efforts, DEP has raised the compliance rate to 92% and anticipates the remaining locations will return to compliance in the near future.

DEP also evaluated the compliance status of 126 MCP sites, at which response actions have been completed, that were not captured within the 1000-foot radius of a school. DEP conducted Level 1 audits on fifty-two (52) sites and the equivalent on twenty-six (26) others. Seventy-one (71) releases were determined to only warrant a cursory review (pre-screen) because they were either small volume surface spills/vehicular accidents or sites without any nearby sensitive receptors. DEP completed nineteen (19) Level 2 audits in the City and two are pending completion. From the Department's review of these sites, two were recommended for a Level 3 audit which are underway and two were recommend for inspections. The inspections were completed at two sites with an Activity and Use Limitation (AUL). The two sites inspected were both school properties, the Mary C. Burke Complex and the Shurtleff Early Childhood Center. No violations were identified regarding the obligations of the Activity and Use Limitation. An AUL is used to prevent risk to human health by restricting or limiting site activities and uses in areas of the site where residual contamination exists.

DEP is committed to continue auditing response actions at MCP sites and taking enforcement actions when necessary to ensure that contamination is cleaned up properly and on time in Chelsea and across Massachusetts.

An electronic copy of this report can be found at DEP's web site:
Mass.Gov/dep/bwsc/school.htm.

If readers would like more information about this evaluation or any specific MCP site in Chelsea, please contact:

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