

**Adelaide Avenue Environmental Justice Coalition  
60 Crescent Street  
Providence, Rhode Island 02907**

August 15, 2007

Mr. Alan Sepe  
Acting Director  
Department of Public buildings  
25 Dorrance Street  
Providence, Rhode Island 02903

**Re: Adelaide Avenue School – 29 June 2007 Air Sampling Event  
Community Response- Ambient VOC Concentrations**

Dear Mr. Sepe:

On behalf of the Providence Department of Public Property (City), EA Engineering, Science and Technology, Inc. (EA) has provided the Rhode Island Department of Environmental Management (RIDEM) with the most recent TO-15 air sampling results for the Adelaide Avenue School (School). The samples were retrieved from the Site during a sampling event completed on June 29, 2007. This was the fifth sampling round completed at the site in accordance with the schedule mandated by the RIDEM's Amended Order (AO) issued in February of 2007. As has been the case previously, your engineers and consultants submitted their report, which includes tables summarizing data, figures illustrating sampling locations, and copies of the analytical reports for the abovementioned sampling event, as well as their interpretation and assessment of that data. The community would like to take this opportunity to comment on the assumptions presented in the Order of Approval Compliance Follow-Up Letter included with this most recent report which was submitted on July 20, 2007. For continuity and ease of interpretation we will follow the order and format presented in the report by listing first EA's bulleted assumption, followed by the community response:

- *“To date, with the exception of one VOC compound in one indoor air sample collected on 22 March 2007 (Trichloroethylene [TCE] ...and also detected in ambient outdoor air at a greater concentration than that reported for the indoor sample on 22 March), none of the VOC compounds of greatest potential concern to human health at this site, as identified by the Agency for Toxic Substances and Disease Registry [ATSDR] in their December 2006 Health Consultation, have been detected in any of the 40 samples at concentrations greater than the respective Indoor Air Action Levels.”*

All volatile organic compounds, as well as all other site related air contaminants are of great concern to the community. Any VOC or other contaminant of concern that exceeds the Adelaide Avenue School's designated residential Target Air Criteria (TAC) for indoor air is of grave concern, and will be addressed. Both carcinogenic as well as non-carcinogenic indoor air contaminants need to be monitored closely. If and when an exceedence is detected and recorded, its source will be identified, and the contaminant of concern will be remediated to acceptable levels or eliminated entirely. Please identify those compounds that you consider are not of the "greatest potential concern", as identified by the ATSDR in their 2006 Health Consultation for our school.

Your consultants have repeatedly referenced the indoor air criteria exceedence of Trichloroethylene (TCE) recorded on March 22, 2007 as an example of the influence of outdoor air on indoor air quality. The indoor air levels for TCE on that day were reported at 1.72 ug/m<sup>3</sup>; almost double the standard established for our school of 1 ug/m<sup>3</sup>. The corresponding outdoor ambient air concentrations of TCE during that same sampling event were 2.74 ug/m<sup>3</sup>; or more than ten fold the conventional urban background value anticipated under normal circumstances. As your consultants have also highlighted, "*TCE was consistently detected during historical soil vapor samples at this site*". It should also be noted that TCE was identified in the air samples retrieved from the region of the sub-slab vapor mitigation system in excess of 197 ug/m<sup>3</sup> on this same sampling date, March 22. This is a clear indication that the soil vapors from below ground surface are beginning to rebound below Parcel B after the extensive disturbance to the site during construction of the school. These soil vapor values will continue to increase in magnitude over time, and ultimately will impact the indoor air of the school, either through sub-slab intrusion, or the interface of the ambient air impacted by site related contamination.

As a direct result of the poor characterization of this property's contamination and inadequately designed Conceptual Site Models; initially by Textron Inc. and now the City of Providence; ***both primary responsible parties***, the appropriate remediation alternatives were never considered or pursued to safely incorporate a sprawling high school campus into the redevelopment of this hazardous waste site. Left unremediated the TCE soil vapor concentrations will continue to rebound and increase over time, and the site influenced ambient outdoor air will ultimately impact the indoor air quality of the Adelaide Avenue high school in a consistent and chronic fashion. The community's perspective is, and always will be, that any indoor air concentration for TCE exceeding one (1) microgram per cubic meter (ug/m<sup>3</sup>), regardless of origin, will be considered a violation of the Order of Approval and constitute non-compliance by the City of Providence. As far as the community is concerned, expected background levels, and site specific ambient air levels are two completely different values to be analyzed accordingly. Their impact on health based air quality criteria are mutually exclusive of one another. After all, the ambient soil vapors emanating from the school's grounds could have been eliminated by a more rigorous and professional remediation of the site initially; had the Department of Public Property and it's engineers been inclined.

- *“No evidence of soil vapor intrusion into the newly constructed school has been observed”.*

Note community comment to the first bulleted City assumption above.

- *“Carbon Tetrachloride, a background ambient concentration at the site ...”*

During the course of the last five months the community has witnessed the evolution (or more appropriately, the de-evolution) of Carbon Tetrachloride from a “contaminant of concern”, to an acceptable background concentration at the Adelaide Avenue School. As was stated clearly in the previous comments, ambient outdoor air and background concentrations are two different animals. If the City intends to classify any contaminant concentrations on the site as background; especially an exceedance of the indoor air criteria for our school, then we anticipate your engineers will complete an analysis of the surrounding neighborhood, and/or other school environment’s air quality to verify this assumption. This additional investigation is especially urgent, given that you are willing to characterize (or dismiss) carcinogenic vapors that are impacting the quality of the indoor air at our school as routine. Please note that this is not a request, but a demand, and will be included with the other outstanding unfulfilled obligations from your department concerning the scheduled opening of the Adelaide Avenue School.

- *“In general, since indoor air sampling was initiated in March 2007.... only two VOCs known to be associated with construction activity (1,3,5- Trimethylbenzene and 1,2,4-Trimethylbenzene) were detected in several samples at concentrations that exceed the applicable Indoor Air Action Levels on 29 June 2007. Historically, these two VOCs were either not detected in soil gas sampled from the property.... During the same sampling round, neither of these two VOCs was detected in the sub-slab region above 3.4 ug/m<sup>3</sup>”.*

It is disingenuous to say that these two volatile organic compounds are not found in concentrations on this property. 1,2,4-Trimethylbenzene and 1,3,5-Trimethylbenzene may not have appeared in the arbitrary and limited shallow (less than 5 feet bgs) soil vapor testing done by EA Engineering Inc. for the Department of Public Property, but historical sampling of groundwater and subsurface-soil show significant levels of both these carcinogenic contaminants. The contamination levels are elevated in both mediums (groundwater and soil) enough to generate soil vapor concentrations well in excess of the RIDEM’s action values for indoor air at the school.

For the first time since sub-slab region testing commenced in March, the detection limits are now actually low enough to record concentration values for both 1,2,4-Trimethylbenzene and 1,3,5-Trimethylbenzene that are meaningful. Previous to this most recent sampling event, the detection levels for all soil vapor values under the floor of the school (sub-slab region) have been distorted by the “self-inflicted contamination” of the ill-conceived monitoring probes designed and installed by EA Engineering for the City. The effectiveness and accuracy of the eight sub-slab monitoring probes at the school are very

much in question. We have stated repeatedly that accurate real-time measurements of the soil vapor concentrations under the school are essential for true vapor intrusion analysis. All indications are that the concentrations of both these VOCs; as well as all contaminants of concern, will continue to increase in magnitude below the foundation floor and could impact the indoor air quality of the school over time.

The fact that the sub-slab values are in the range of 3.4 ug/m<sup>3</sup> and climbing; and the ambient air levels are steady verifies this. As was stated by your consultant, both these VOCs are common compounds associated with commercial activities. Not unlike the commercial activities performed at the Textron/Gorham Manufacturing Facility on this site for one hundred years.

The community looks forward to reviewing the next round of air quality test sampling results for the Adelaide Avenue School; and sharing that information with all interested stakeholders who are concerned with the well-being of our children, and, who also deserve to be better informed.

Sincerely,

## **Adelaide Avenue Environmental Justice Coalition**

**cc:**

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