

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

June 25, 2007

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

**Re: Adelaide Avenue School – 26 April 2007 Air Sampling Event**  
**Community Response-CTDEP Remediation Standards**

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 April 26, 2007.

The City, through communications between your department and the RIDEM, continues to aggressively challenge both the logic for testing sub-slab air as well as the established indoor air quality thresholds promulgated by the state of Rhode Island. Since you are the principal spokesperson for the City on the Adelaide Avenue School project, (and all future school projects) we assume your efforts to weaken existing testing protocol and advocate for less protective indoor air standards is the stated position of the City, and reflects the expectations of both Mayor Cicilline and the Providence School Board. Perhaps it would be beneficial for us to introduce the concerns of our communities, including the future selected community of children, their parents, and teaching staff who will become the Adelaide Avenue School family, at the next Providence School Board meeting. After contemplating responses to our concerns from a number of Board members, it is apparent there is still confusion concerning the applicable goals for the School. Your continuing effort to undermine the established indoor air quality criteria for public buildings is disturbing, uninformed, and misguided.

EA Engineering implemented an overall evaluation of all three rounds of data collected to date to illustrate the *demonstrated effectiveness* of the sub-slab depressurization system (**SSD**) operating at the Site. The community vigorously disagrees with aspects of this assessment based on the data and rationale provided by your environmental consultants. Our observations and responses are listed below. They have been itemized in order of their

appearance within the Compliance Follow-up Letter submitted by the City, to Joseph T. Martella II, Senior Engineer, RIDEM and dated May 8, 2007:

### **Indoor Air Action Levels:**

- *“In reality students that will attend the school will be present for only approximately six (6) hours per day for two hundred (200) days per year for no more than four years for the majority of students. Therefore these Action Levels for indoor air are not intended to be treated as acute exposure criteria when compared to indoor air concentrations for any residential scenario, and especially not intended to be treated as such at the Adelaide Avenue School where the period of exposure will be significantly less than that used to establish the Residential Target Air Concentration”.*

We assume you are trying to highlight the differences in exposure limits set for the school by the RIDEM, versus what you feel quantifies an actual action level for the indoor air of a public building. The values established for indoor air action levels by the Connecticut Department of Environmental Protection (**CT DEP**) for both residential and commercial use are designed to be protective for most potential receptors. It appears you are contending that the children in school are exposed to the indoor air of the building for less time than the duration of exposure used to promulgate the established residential “action levels” for Rhode Island. There are three clear points, which need to be made.

Firstly, if you apply the commercial indoor air criteria to the school environment, as you would to the abandoned Super Stop & Shop or any other retail location (we think this is what you are attempting), then yes, the length of time the students are present at the school would more aptly correspond to the default values used to establish commercial indoor air exposure time. However, according to the Connecticut Department of Health (**CT DOH**) schools are given a residential rating to afford the student population more protective indoor air criteria. Children exposed to the same levels of volatile organic compound (**VOC**) vapors as adults will receive a larger dose because they have greater lung surface area to body weight ratios. These concerns are reflected in most agencies’ risk-based indoor air concentrations, and are appropriate because they indirectly address other toxicity concerns, such as protection of susceptible populations, as well as the cumulative risk and effects from the total VOC exposure. Regardless of the extrapolated exposure time deemed appropriate by EA engineering for our school, applying the Proposed Residential Target Indoor Air Concentrations (RTAC) are the only values we will consider as protective.

Secondly, the primary contaminants of concern on the Adelaide Avenue School property are VOC’s. Of these, eight (8) compounds appear to be the most concentrated. They are Benzene, Carbon Tetrachloride, Chloroform, 1,4-Dichlorobenzene, Tetrachloroethylene, Trichloroethylene Methylene Chloride, and Vinyl Chloride. Your implication that these compound’s “action levels are ultra conservative” and unnecessarily restrictive and do not apply to in-door air concentrations in the school is unacceptable on so many levels. If your consultants and or engineers are implying that the commercial air concentrations would be more appropriate in this instance, then we are perplexed. In the specific instance of the *eight (8) primary VOCs of concern* at the school, the commercial and residential action levels are essentially identical. The City has continuously indicated, through its actions and comments, it does not want to respect the established RIDEM “residential action levels” for this project. Our guess is you are laying the ground- work for an attempt

to renegotiate the criteria for the school's indoor and ambient air values when and if they are exceeded.

Thirdly, this obsession with comparative air level data, unrelated to this site or situation, as a reference to the schools indoor air testing results is interesting, but tiresome. Possibly we can help you put the indoor air quality targets into perspective. Below is a chart listing eight of the VOCs that are contaminants of concern on the Textron/Gorham property. The school will use the residential numbers as its limits. As was pointed out above, note that the industrial/commercial target air criteria are virtually identical to the residential criteria. Most striking is the EPA health-based risk levels promulgated in recent years by the federal government. These values established by the EPA after an exhaustive period of review are what we would hope to achieve as indoor air limits for our children. Unfortunately, due to pre-existing ambient and background contamination levels, the residential criteria established by the CT DEP is considered the best we can achieve for now. Also, analytical testing laboratories cannot yet achieve some of the lower levels required. Therefore a number of toxic compound's indoor air quality action levels have been temporarily established based on these minimum detection limits, and will be lowered accordingly, as the sophistication of air testing rapidly improves. The chart below compiles the CT DEP's (as well as the RIDEM's) promulgated air quality levels with the EPA's risk-based health level for comparison. As is made clear by this chart, the values the city is being held to are significantly higher than what the EPA has mandated as risk-based safe indoor air levels for our children here in Providence.

<b>Contaminant of Concern</b>	<b>EPA Health-Based Risk Values</b>	<b>CT DEP Residential TAC</b>	<b>CT DEP Ind/Com TAC</b>
Benzene	0.2	3.3	3.3
Carbon Tetrachloride	0.08	0.5	0.54
Chloroform	0.1	0.5	0.5
1,4-Dichlorobenzene	0.3	24	24
Tetrachloroethylene	0.3	5	5
Trichloroethylene	0.006	1	1
Methylene Chloride	1.0	3	17
Vinyl Chloride	0.07	0.14	1.9

All values are micrograms per cubic meter (ug/m3)

### **Section 1.1 Sub-slab Regions:**

- *“The reporting of all other VOCs being analyzed have been dramatically reduced over time to the point where over 50% of the VOC compounds are now being reported by the lab as “Not Detected” with reporting limits that are lower than the conservative Action Levels established for indoor air at the Site”.*

The city is sampling for volatile organic compounds in the sub-slab region of the Adelaide Avenue School via the Method TO-15 procedure. This test is designed to measure forty-seven (47) different volatile organic compound vapors. Only sixteen (16) of these compounds have ever been identified as contaminants of concern for the school on Parcel B. The other thirty-one (31) VOCs were always **“Not detected”** on this Site. They have never entered the equation of possible contaminants of concern. Of the sixteen (16) relevant analytes, fourteen (14) have Reported Detection Limits averaging fifteen (15) times greater than the RIDEM indoor air **“Action Levels”**. Your analysis that 50% of the reporting limits are now lower than the CT DEP Target Air Concentrations is meaningless and irrelevant. This process would be more constructive if your consultants behaved like engineers, and not policy spin-doctors. Our preliminary review of the data reinforces our earlier assessment, that no viable and/or useful information has been established by any of the sub-slab testing done either before or after the initialization of the Sub-Slab Depressurization System (SSD), and that trend continues unabated.

Essentially, the city has installed eight (8) sub-slab monitoring devices that continue to grossly contaminate air samples retrieved from them. They are constructed of PVC components, and continue to off-gas Acetone and 2-Butanone; two common VOCs associated with PVC glue and primer. Using your own figures, \$475.00 per test, the city has already spent \$11,400.00 without being any closer to actually measuring the effectiveness of the SSD system, or understanding the nature and the concentrations of soil gases within the school’s sub-slab region. Until this information is available, you cannot effectively analyze vapor conditions and sources at this site.

Sincerely,

## **Adelaide Avenue Environmental Justice Coalition**

**cc:**

Terrence D. Gray, P.E., Assistant Director, RIDEM/AW&C  
John Langlois, Esq., RIDEM/LEGAL  
Joseph T. Martella II, RIDEM/OWM  
Richard Enander, PhD, RIDEM/OTCA/Risk Assessment  
Karen Leslie, CEO, YMCA  
Senator Juan Pichardo, District 2  
Representative Thomas Slater  
John J. Lombardi, City of Providence  
Thomas Deller, City of Providence  
John Simmons, City of Providence  
J. Fernandez, Esq., City of Providence  
Sara Rapport, Esq., City of Providence  
Glenn Wilson, Kimco Realty  
Tammie A. McRae, ATSDR  
Richard A. Sullivan, ATSDR  
Peter M. Grivers, EA Engineering  
James Ryan, Partridge, Snow, & Hahn  
Knight Memorial Library Repository