

Adelaide Avenue Environmental Justice Coalition

April 20, 2007

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

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Re: **Adelaide Avenue School – Initial Air Sampling Event**

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 your most recent air sampling results for the Adelaide Avenue School (Site). The samples were retrieved from the Site during a sampling event completed on March 22 2007. On behalf of the entire community (Stakeholders) we offer the following observations:

- It has been implied that the RIDEM is insisting the City test the indoor air at the school prematurely, given that construction activities continue at the Site. The City's contractor has reported that the volatile organic compounds (VOCs) detected during the indoor air-sampling event are residual vapors generated by construction activities and/or building materials. Both the community and the RIDEM were told repeatedly and often that the school would be receiving its student body in January of this year. As Director of your department and spokesperson for the City on this matter you were frequently quoted as insisting the school would be open by the first of the year. All stakeholders in this process have been concerned, given the accelerated construction schedule, that there would not be adequate time available to properly evaluate the conditions at the school prior to installing the children. It appears that the RIDEM was simply being comprehensive in asking the City to begin testing in March. Almost all parties involved had anticipated and implemented a task schedule based on your projections that the facility would be operational in January 2007. The City's insistence that this line of sampling is premature and a waste of money is insulting to the children and parents who will become part of the Adelaide Avenue School community. If in fact, it is an unnecessary expenditure, the responsibility for this conflict in the testing schedule is yours alone.

- It continues to appear that there is limited usefulness to the VOC data obtained from sub-slab air sampling ports located on the perimeter of the school. These vapor retrieval points extend horizontally, less than six feet into the region below the slab foundation. All the sub-slab sampling locations (MP-1 through MP-8) are constructed with PVC plastic components and are off gassing high concentrations of Acetone and 2-Butanone. Both of these VOC analytes are inherent to PVC pipe, glue, and primer. Based on your contractor's projection of \$475.00 per test, the total amount spent on sub-slab testing to date is \$7,600.00. It appears these test results are also a waste of limited funding. The community has repeatedly requested that dedicated gas probes be installed directly through the floor of the school into the sub-slab region. These sampling probes are made of stainless steel and do not contaminate the samples as they are retrieved from below the foundation. The placement of the probes within the interior "footprint" of the school would be more representative of vapor intrusion within the sub-slab region. Accurate sub-slab analysis is imperative for understanding and characterizing the actual degree of contamination and potential VOC vapor intrusion; as well as qualifying VOC backgrounds found in the indoor air of the school. This sub-slab VOC vapor data is made all the more critical due to the fact that the Site was never adequately characterized, nor has any remediation been designed or implemented which would eliminate the actual source of these carcinogenic vapors. The community once again requests that you install and utilize eight sub-slab vapor probes installed within the floor of the school.
- The first round of sub-slab air samples have been rendered useless by the ongoing off gassing of the vapor retrieval ports fabricated with PVC pipe. As a result there is no meaningful data available to characterize the sub-slab region prior to the start-up of the Vapor Intrusion Mitigation System (SSD). This will need to be remedied prior to the opening of school. The likely solution would be to shut down the SSD for a period of two weeks, and retest the sub-slab region utilizing the missing interior probes, which, once installed would be located within the footprint of the school.
- Your contractor has designed a *Summary of Indoor Air Sampling Data* table that is included with the compliance follow-up letters. The table is used to identify those VOCs that are an exceedence to the applicable Indoor Air Action Levels. In this instance the "applicable" target air concentrations are from the Connecticut Department of Environmental Protection (CT-DEP) vapor intrusion criteria. The table actually incorporates three different individual air concentration value columns. Your effort to utilize these additional "*comparative values*" is intentionally misleading. The one applicable Indoor Air Action Level derived from the CT-DEP Indoor Residential Target Air Concentrations is valid. The other two "*comparative values*" are irrelevant and only suffice to confuse the data being presented. We have checked with Connecticut authorities and they were surprised that the City decided to include two sets of target air concentration values from that state's regulations. They have informed us that in fact the "proposed" CT-DEP target levels are the only values used by the state, and that the "existing" air concentrations are obsolete. The latter criteria was established before 1996, and has been modified to reflect the most recent

toxicological data as well as the wealth of science that supports our better understanding of VOC vapor intrusion into buildings overlaying contaminated property (such as the school). In fairness to the many Stakeholders who are not engineers or scientists but who are concerned and interested in this important data, please remove what is essentially worthless and misleading information. It only confuses the issue, and unnecessarily complicates what is already an intimidating process for most of the community.

- The community is encouraged to find that the City has agreed to test all the air samples from the school utilizing the EPA approved TO-15sim method for analyzing VOC vapors. Initially your contractor intended to sample the indoor air samples with a device known as a Photo Ionization Detector (PID). The PID meter can be an effective tool for investigations, but they are simply not sensitive enough to detect VOCs at the risk-based levels considered for the school. Nor can the PID meter speciate the individual volatile organic compounds of concern for this situation. The instrument initially proposed by EA Engineering measures Total Volatile Organic Compounds, only.
- Trichloroethylene (TCE) is a known carcinogen and is present throughout Parcel B, which the school has been built on. It was identified in groundwater samples, soil vapor testing, and in the soil itself. Now it has been found in the outdoor ambient air at levels over 2.70 ug/m³, well above standard background concentrations for Trichloroethylene. The EPA has established a median concentration background value of 0.027 ug/m³ for TCE, meaning that it sometimes can be found in buildings at this level or less. The City's contractor stated that TCE was not detected in sub-slab air during this sampling event. Firstly, the laboratory testing your samples for TCE was using a reporting limit of 67.1 ug/m³, well above a useful analysis level. And secondly, all three rooftop fan effluent results contained TCE gases. One sample was over 112 ug/m³ and another was almost 80 ug/m³. This data indicates clearly that there will be TCE, and other VOC vapors continuing to collect under the floor of the school. Without accurate sub-slab vapor levels for all contaminants of concern; it will be impossible for you to establish background influences and concentrations. As with all VOCs, the complete distribution of vapors under the floor of the school must be known in order to properly interpret its impact on indoor air quality.

In conclusion, the community will continue to participate in the ongoing process of hopefully establishing a safe environment for our children and the staff who will have to attend the Adelaide Avenue School. As vital Stakeholders we all look forward to working with you on not just this school, but all the properties and existing facilities impacted by the City of Providence's ambitious long-term plan to rebuild our neglected school system.

Sincerely,



Robert F. L. Dorr as Spokesperson for the community

Adelaide Avenue Environmental Justice Coalition

Concerned Citizens of the Reservoir Triangle and South Providence

Future Parents Group for the Adelaide Avenue High School

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

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Senator Juan Pichardo, District 2

Representative Thomas Slater

Leon Tejada, Councilman

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