

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

August 8, 2007

Mr. Michael Murphy  
Mactec Engineering and Consulting, Inc.  
Senior Principal Scientist  
107 Audubon Road, Bldg. 2, Suite 301  
Wakefield, MA. 01880

**Re: Sub-slab Vapor Investigation-Parcel A**  
**Abandoned Stop & Shop Retail Complex**  
**Conditions for No Further Investigation – 2<sup>nd</sup> Letter**

Dear Mr. Murphy:

On May 20, 2007 the community wrote directly to you asking for clarification and corrections concerning your interpretation of the soil gas characterization investigation planned for the now abandoned Super Stop & Shop (**Site**), located at 333 Adelaide Ave. Textron Inc. (**Textron**), the previous owner and primary responsible party of the contaminated site, hired Mactec Engineering and Consulting, Inc (**Mactec**) to design and implement a soil vapor investigation for a portion of the thirty-eight acre property previously known as the Textron/Gorham Manufacturing Facility. The Rhode Island Department of Environmental Management (**RIDEM**) received the limited scope investigation work plan for review on April 25, 2007. You specify in the plan that the investigation approach will be consistent with the NYS DOH, 2006; US EPA, 2002; and the CT DEP, 2003 vapor intrusion investigation procedures and protocol. Your investigation will focus on the characterization of the soil gas in the subsurface, and specifically the sub-slab region of the large retail complex on Parcel A.

The community is aware that you are Senior Principle Scientist for Mactec, and therefore we are especially troubled by your personal assessment concerning both the derivation and application of the Connecticut Department of Environmental Protection's (**CT DEP's**) Proposed Target Industrial / Commercial Soil Vapor Screening concentrations (**I/C-SVVC**).

As was stated in our first unanswered query to Mactec on May 20, 2007, the community questions the legitimacy of your interpretation and the misguided application of the abovementioned target soil vapor screening concentrations in respect to the ongoing investigation and incomplete remediation of Textron's hazardous waste site located here in South Providence.

The RIDEM has not yet developed vapor intrusion criteria, and therefore has incorporated the state of Connecticut's most recently promulgated values. With such limited resources and manpower constraints within the RIDEM, the department's use of these established criteria is understandable and prudent. Connecticut's action values and volatilization criteria were developed using the most recent science and toxicological data, and is a practical and protective approach for evaluating vapor intrusion risk given the uncertainties related to the cancer potency of halogenated organic compounds. One of the many compounds of concern at Textron's Site is Trichloroethylene (TCE), just one of a number of degreasing agents used extensively throughout their facility.

TCE exposure is associated with a number of adverse health effects, including liver toxicity, kidney toxicity, developmental toxicity, neurotoxicity, toxicity to the immune system, endocrine effects, and several types of cancer. (U.S. EPA, 2004). Children exposed to the same levels of TCE vapor as adults may receive a larger dose because they have greater lung surface area to body weight ratios and increased minute volumes to 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 (*i.e., Environmental Justice communities, children, and those with certain diseases*) and cumulative risk and effects.

The bulleted items listed below are the same initial concerns expressed in our May 20, 2007 letter addressed to Michael J. Murphy of Mactec, as well as additional thoughts and issues brought up at our neighborhood community meetings:

**Conditions for No Further Investigation:**

- In your investigation work plan you state, "*The analytical data from the sub-slab soil gas samples will be compared to the CT-DEP Proposed Soil Vapor Volatilization Criteria. Consistent with the proposed CT-DEP regulations, if the analytical results are below these criteria, no further investigation of the vapor intrusion pathway will be required for the retail building*". This statement is not consistent with the intent and/or the application of the soil vapor volatilization criteria established by Connecticut, and now also used by the RIDEM. We believe these established soil vapor concentrations represent a soil gas measurement that would be located and identified in the "subsurface region"; emanating from a source (such as groundwater) greater than ten (10) feet below ground surface. It is illogical and reckless to interpret the Connecticut soil volatilization criteria as target concentrations for the immediate sub-slab region of the retail complex..
- Below is a Table identifying some but not all the primary VOCs of concern at the Stop & Shop building and complex. Included in the table are concentrations promulgated by the US EPA, which are to be utilized as generic sub-slab action values. These values are derived from an attenuation factor applied to the CT-TAC numbers established as protective of the community's health.

Contaminate of Concern	CT-DEP I/C TAC Indoor air	EPA Sub-slab Attenuation Factor 0.1	EPA Soil Vapor Attenuation Factor 0.01
Trichloroethylene	1 ug/m3	10 ug/m3	100 ug/m3
Vinyl Chloride	1.9 ug/m3	19 ug/m3	190 ug/m3
1,2 Dichloroethane	0.31 ug/m3	3.1 ug/m3	31 ug/m3
1,1 Dichloroethylene	20 ug/m3	200 ug/m3	2000 ug/m3
Benzene	3.3 ug/m3	33 ug/m3	330 ug/m3
Tetrachloroethylene	5 ug/m3	50 ug/m3	500 ug/m3
Methylene Chloride	17 ug/m3	170 ug/m3	1700 ug/m3
Chloroform	0.5 ug/m3	5 ug/m3	50 ug/m3
1,4 Dichlorobenzene	24 ug/m3	240 ug/m3	2400 ug/m3

According to the protocol established by the US EPA and others; sub-slab soil vapor concentrations exceeding those listed above would compel the investigator to evaluate and test the indoor air of residential or commercial spaces located above these conditions. If this data is contrary to your understanding of the investigation process, please inform the community immediately. We will need to implement additional measures to assure the complete and accurate evaluation of the abandoned Super Stop & Shop, if in fact; Textron is unable or unwilling to comply with these well-established standards.

Sincerely,

Adelaide Avenue Environmental Justice Coalition

**cc:** Terrence D. Gray, P.E., Assistant Director, RIDEM  
 John Langlois, Esq., RIDEM/LEGAL  
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