BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:

PROPOSED AMENDMENTS TO TIERED APPROACH TO CORRECTIVE ACTION OBJECTIVES (35 ILL.ADM.CODE 742)	)R11-9) (Rulemaking - Land))

NOTICE OF FILING

To: see attached service list

PLEASE TAKE NOTICE that on the 13th Day of July, 2011, I filed with the Office of the Clerk of the Pollution Control Board the attached Post-Hearing Comments on behalf of the Little Village Environmental Justice Organization.

By 

Keith Harley, Attorney for thb` Little Village Environmental Justice Organization

Dated: July 13, 2011

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CERTIFICATE OF SERVICE

I, KEITH HARLEY, an attorey, hereby certify that a true copy of Little Village Environmental Justice's Post-Hearing Comments was delivered via electronic filing on July 13. 2011 to the following:

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and that true copies of this document were mailed by First Class Mail, by depositing the same in the U.S. Mail depository located at 211 West Wacker, Chicago, Illinois in an envelope with sufficient postage prepaid, on July 13, 2011 to the following:

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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)))R11-9
PROPOSED AMENDMENTS TO TIERED APPROACH TO CORRECTIVE ACTION OBJECTIVES (35 ILL.ADM.CODE 742)	) (Rulemaking - Land))

POST-HEARING COMMENTS OF **THE** LITTLE **VILLAGE ENVIRONMENTAL** J[TSTICE **ORGANIZATION**

Now comes Keith Harley of the Chicago Legal Clinic, Inc., on behalf of his client, the Little Village Environmental Justice Organization, and respectfully submits the following comments.

The Little Village Environmental Justice Organization (LVEJO) is a community-based, not-for-profit environmental advocacy organization. (See: lvejo.org). LVEJO's mission is to ensure that all people live in a healthy and safe environment. (Id.; see also Article XI of the Illinois Constitution). LVEJO emphasizes the need for regulators and regulated entities to devote particular attention to achieving environmental quality in the most vulnerable communities. In the context of the present proceeding, LVEJO's interest is to ensure that children are not exposed to hazardous substances through vapor intrusion into school buildings constructed on brownfield sites. Children are uniquely susceptible to the effects of exposure to hazardous substances and spend long periods of time in school buildings. At the same time, children are unable to advocate for themselves in a proceeding like this one. Consequently, LVEJO is requesting the Illinois Pollution Control Board (IPCB) devote heightened attention to the situation of this particularly vulnerable population in its deliberations in this rlemaking.

It is common for schools to be constructed on brownfield sites. Even a cursory search for school sites that are or have been enrolled in the Site Remediation Program returns the following 45 results:

Site Remediation

The following SRP sites matched your search criteria. To display additional information about a selected site, click on the hyperlinked LPC #.

11EPAID	NAMESITE	STREET	CITY	ZIPCODE
0270305023	'Community Unit School District No. 1	1461 12th Street	Carlyle	62231-
0316000061	Chicago Public Schools	1717 North Kostner Avenue	Chicago	60639-
10316015082	IHaugan School	4654 North Lawndale Avenue	Chicago	60626-
0316035149	McPherson School Parking Lot	1941-1953 West Lawrence Avenue	Chicago	60640-
0316035168			Chicago	160640-
0316085287	'Richard E. Byrd Public School	363 West Hill Street	'Chicago	60610-
10316145253	Chicago Public Schools	4901-4949 North Sawyer Avenue	Chicago	160625-
0316145273	Old Town School of Folk Music	4543-4545 North Lincoln Avenue	Chicago	60625-
0316235094	George Westinghouse Vocational High School	401 North Sawyer Avenue	Chicago	60624-
0316255120	Edward Duke Ellington School	224 North Central Avenue	Chicago	60644-
[03162551821	McNair School	944-958 North Cicero Avenue	Chicago	60651-
0316286346	Benito Juarez High School	2150 South Laflin Avenue	Chicago	60608-
0315286346	Benito Juarez High School	2150 South Laflin Avenue	Chicago	60608-
10316286359	Skinner Elementary School	1111 South Throop Street	Chicago'	60607-
03163000071	Washburne Trade School	3011 South Kezie Avenue	Chicago	60623-

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IEPAID	NAMESITE	STREET	CITY	ZIPCODE
0315305195	Lawndale School Campus Park	3419-3541 West 13th Place	'Chicago	60623-
1031fi306452	Legacy Charter School	1801 South Karlov Avenue	Chicago'	60623-
03163150891	Chicago Public Schools	1920 West 18th Street	Chicago	60608-
103 5335144	'Teaching Academy-Cermak School	2241-2259 South Federal Street'	Chicago	60616-
0316335145	Teaching Academy-Cermak School	12200 South Federal Street	Chicago	60616-
103163351461	Cermak School	2233 South Federal Street	Chicago	60616
0316335171	Perspectives Charter School	1930 South Archer Avenue	Chicago	60616-
0.316425044	'Andrew Carnegie School	6101 South Dorchester Avenue	Chicago	60637-
0316426034	Gary Comer College Prep Community High School	7127-7147 South Chicago Avenue	Chicago	60637-
03164351041	New South Shore High School	1955 East 75th Street	Chicago	60649-
0316435106	Powell Replacement School	7511 South South Shore Drive	Chicago'	60649-
0316505045	New Langston Hughes Elementary School	10320 South Wentworth Avenue	Chicago	60628-
0316515135	Sullivan School	8300 South Green Bay Avenue	Chicago	60617-2626
103165750941	Eric Solaria Academy High School	5400 South Saint Louis Avenue	Chicago	60632-
10316585182	Davis-Shields School	4500-4556 South Kedzie Avenue	Chicago	60632-

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State of Illinois

Site Remediation

The Following SRP sites matched your search criteria. To display additional information about a selected site, click on the hyperlinked LPC #.

IEPAID	NAMESITE	STREET	CITY	ZIPCODE
0316555202	Kelly High School	4053-4083 South Archer Avenue	Chicago	60632-
0316585228	Brighton Park School-Triangle Property	3701-3705 South St. Louis Avenue	Chicago	60632-
0316656025	Lee Pasteur Hurley Elementary School	14707 West Marquette Road	'Chicago	60629-
0316665064	Sandoval School	5534 South St. Louis Avenue	Chicago	60629-
10316675139	Chicago Public Schools	6758 South Paulina Street	Chicago	60636-
0316715134	Simeon Vocational High School	8101 South Vincennes Avenue	Chicago	160620-
031051,5370	J. Sterling Morton High School Freshman Center	5401 West 16th Street	Cicero	60804-
163045,5256	Clark Middle School	5600 State Street	East St. Louis	62201-
1970455525	Joliet Public Schools District 86	599 Williamson Avenue	Joliet	60431-
19744500471	Joliet Township High School District 204	450 Knowlton Avenue	'Joliet	60423-
09700 5 1	Grove School	40 East Old Mill Road	Lake Forest	60045-
1130255007	LeRoy Community Unit School District Number 2	600 East Pine Street	LeRoy	61752-
1970705074'	Providence Catholic High School	2799 East Washington Street	New Lenox	160451-
0312315131	Fernway Park School	16600 South 88th Avenue	Orland Park	60462-
11109,50017	Woodstock Community School District	114126 West South Street	Woodstock	160098-

While most of the schools on this list are in Chicago, there are also schools in Cicero, East St. Louis, Joliet, Lake Forest, LeRoy, New Lenox, Orland Park and Woodstock.

The IL EPA SRP website also provides summary information about each individual school site. In reviewing the information about school sites that have received No Further Remediation (NFR) letters, it is notable that virtually every NFR is conditioned on an institutional control - a municipal ordinance prohibiting the use of groundwater - and an engineered barrier. For these schools, the use of an institutional control to address groundwater means that groundwater contamination may not have been assessed and

almost certainly was not remediated prior to site reuse as a school. The prevalence of engineered barriers suggest subsurface contamination may not have been removed or otherwise remediated, on the theory that surface excavation coupled with a barrier eliminates the bioavailability of subsurface contaminants.

The new emphasis on the vapor intrusion pathway raises fundamental questions about the adequacy of these existing institutional controls and engineered barriers at schools. For schools that have completed the SRP, IL EPA has no proposal to address vapor intrusion. IL EPA is not proposing to notify these schools about this newly identified potential hazard to children who attend or will attend these schools. It is not proposing any screening or assessment method to determine if this pathway may pose a threat to these children. IL EPA is making no distinction between schools that may be impacted by chlorinated volatile organic compounds and petroleum contaminants by contrast to hazardous substances less likely to be bioavailable through vapor intrusion. It is not proposing to take any new measures to assess if existing engineered barriers at these schools are designed to address the vapor intrusion pathway and, if so, if these engineered barriers are functioning properly. IL EPA is not proposing to produce, even at the level of an agency guidance document, a description of the measures that can be used or retrofitted at schools to mitigate the hazards of vapor intrusion. Simply, the thousands of children who attend or will attend a school that has completed the SRP in a pre-vapor intrusion world, are doing so at their own risk.

In bringing this concern forward to the IPCB, LVEJO points out there are self-evident reasons to differentiate between schools and other categories of sites that have completed the SRP and that would not be subject to new requirements relating to vapor intrusion.

First, schools are places of mass exposure. Over the useful life of a school building, tens of thousands of children could be exposed to hazards arising from unassessed and uncontrolled vapor intrusion. Second, schools are places of concentrated exposure. Each of these thousands of children will spend hundreds of hours each year, typically for many years, in the school. Third, schools are places of involuntary exposure. Children must attend school, meaning that they have no choice but to be exposed to any hazards that are present in the school building.

Fourth, children are uniquely vulnerable if exposed to environmental toxins. According to U.S. EPA's 2008 publication, Child-Specific Exposure Factors Handbook, children are more vulnerable to the effects of exposure to hazardous substances because of toxicodynamic factors (exposure occurs during periods of enhanced susceptibility) and toxicokinetic factors (differences in absorption, metabolism and excretion create greater risk than for adults). U.S. EPA, Child-Specific Exposure Factors Handbook, at 1-2, available at: http://cfpub.epa_govlncealcfm/recordisplay. cfm?deid=199243#Download. Children are more likely than adults to experience neurodevelopment effects resulting from exposure. Id. With respect to contaminants that are carcinogenic via a mutagenic mode of action, U.S. EPA has found that childhood is a particularly sensitive period of development, in which cancer potencies per year of exposure can be an order of magnitude higher than during adulthood. Id. The immaturity of metabolic enzyme systems and clearance mechanisms in young children can result in longer half-lives of environmental contaminants. Id. The cellular immaturity of children and the ongoing growth processes also contribute to elevated risk. Id. Especially relevant to the issue of vapor intrusion, children are more susceptible to hazardous substances through

inhalation. Children have a higher resting metabolic rate and oxygen consumption rate per unit of body weight than adults (because of their rapid growth and relatively larger lung surface area per unit of body weight). Id. at 6-1.

Fifth, children cannot protect themselves. They depend on school officials, parents and other adults to take precautionary measures to create a safe environment. Absent direction from the IPCB to IL EPA, these adults will have no reason to know that vapor intrusion is a potential hazard and to fulfill their duty to ensure children in their care are protected. Sixth, the IPCB has long recognized that different protocols may be necessary to protect children in school settings by contrast to all other categories of sites. Prompted by groups like LVEJO, the IPCB instituted the school-specific site remediation standards in 35 IAC 740.800.

There are practical methods to assess and address vapor intrusion at existing buildings. This not merely the assertion of LVEJO; it is also the conclusion of the Wisconsin Department of Natural Resources. In its December, 2010 publication Addressing Vapor Intrusion at Remediation Sites and Redevelopment Sites in Wisconsin, the Wisconsin DNR identifies a practical protocol for assessing if vapor intrusion from soil or groundwater is a threat in an existing building. Wisconsin DNR also identifies practical technologies and techniques that can be employed if a vapor intrusion hazard is identified. Finally, Wisconsin DNR mandates a verification protocol to provide assurance that mitigation measures are being successfully implemented and maintained.

The Wisconsin DNR acknowledges that indoor air monitoring in an existing building can reflect multiple sources that can affect indoor air quality, not just vapor intrusion. Id. at 3, 4. In response, the Wisconsin DNR recommends screening approaches for the

two most common hazardous substances that can be introduced into a building through vapor intrusion, petroleum and chlorinated volatile organic compounds. Id. at 4, *et seq.* For buildings that may be impacted by vapor intrusion of benzene or other petroleum constituents (free phase product near a building foundation, or, petroleum contaminated groundwater entering a building or in contact with a building foundation), Wisconsin DNR recommends a simple threshold test. Because petroleum vapor creates odors and cause eye and nasal passage irritation to building occupants, Wisconsin DNR recommends surveying building occupants to identify if they have detected petroleum odors and/or experienced characteristic health problems. Id. at 4,5. Where no petroleum odors have been detected, vapor intrusion can be ruled out at most petroleum release sites where there is also 5 feet (in the horizontal and vertical direction) or clean, unsaturated soil with an oxygen content > 5% between the residual petroleum and the building. Id. at 5.

Wisconsin DNR recommends a different protocol for properties where there has been a release of chlorinated volatile organic compounds vapors (CVOC). A different screening protocol is necessary because of the mobility and toxicity of CVOC combined with the fact that these chemicals cannot be detected by their odor at concentrations that present a human health risk. Id. at 6. Vapor intrusion is a common risk at buildings located on CVOC source property. Id. Chlorinated VOCs can migrate from the source of contamination through unsaturated soils and enter buildings through cracks or other openings in foundations. Id. Groundwater can carry CVOC over long distances, allowing CVOC to volatize off the surface of the water table, move through the vadose zone soils and enter buildings. Id. CVOC vapor intrusion can also occur through sewers, sumps,

drains and other subsurface physical pathways. Id. Contaminated groundwater entering buildings may also lead to vapor intrusion as the CVOC volatize directly into the indoor air. Id.

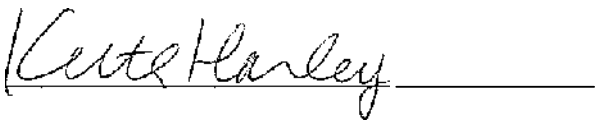
Wisconsin DNR's screening protocol for CVOC vapor intrusion begins by assessing whether CVOCs are a potential issue using existing and/or newly acquired information evidencing soil and groundwater soil matrix concentrations. Id. at 7. In order to determine if CVOCs are likely to affect indoor air quality, Wisconsin DNR recommends sub-slab, soil gas and/or indoor/outdoor air sampling. Id. at 9. For each type of sample, Wisconsin DNR has established a protocol. For example, soil gas samples are used as a survey tool to identify buildings at risk of CVOC vapor intrusion. Id. at 10. If a risk is identified, sub-slab sampling is recommended. For sub-slab sampling at an existing building, Wisconsin DNR recommends 3 sub-slab samples be collected at buildings with a footprint of less than 5,000 square feet, with additional samples taken for each 2,000 square feet of larger buildings. Id. Wisconsin DNR also describes appropriate collection, analysis and quality control/quality assurance methods. Id.

Addressing Vapor Intrusion at Remediation Sites and Redevelopment Sites in Wisconsin also includes practical mitigation measures that can be taken if the levels of contaminants exceed vapor action levels (generally, a 1-in-100,000 excess lifetime cancer risk). Id at 13. These include sealing potential vapor entry points, sub-slab depressurization, vapor barrier and passive venting (during periods of new construction), and building pressurization/HVAC modification. Id. at 17. The effectiveness of a mitigation system must be verified both by the building owner and periodically by the Wisconsin D . Id.

Based on Addressing Vapor Intrusion at Remediation Sites and Redevelopment Sites in Wisconsin, LVEJO asserts it is possible for screening and, if necessary, mitigation measures to be taken at schools that have already completed the SRP. An initial review will indicate which schools relied on institutional controls and/or engineered barriers, leaving subsurface soil and groundwater as potential sources of vapor intrusion. For those sites, it is likely many schools will require no further evaluation because there is no evidence in the SRP documents that the sites are characterized by potential petroleum or CVOC hazards. For those schools that may be impacted by petroleum contamination, a simple occupant survey may conclude the investigation. For a subset of schools where CVOC may be a potential concern, the Wisconsin DNR provides a highly practical screening and sampling process. For those schools which are impacted by petroleum or CVOV vapor intrusion, the levels may not exceed the vapor action levels. For the subset of schools that do exceed vapor action levels, there are several mitigation measures.

For the foregoing reasons, LVEJO urges the IPCB to issue a regulatory mandate that directs IL EPA to develop and implement a plan that will address the risks posed by vapor intrusion in schools that have completed the SRP, but were not required to assess or control the potential risks to children posed by vapor intrusion.

Respectfully submitted,



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July 13, 2011