# Letter Health Consultation

FLORIDA SCHOOL FOR THE DEAF AND BLIND

ST. AUGUSTINE, FLORIDA

**Prepared by the**
**Florida Department of Health**

SEPTEMBER 16, 2009

Prepared under a Cooperative Agreement with the
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia 30333

## Health Consultation: A Note of Explanation

A health consultation is a verbal or written response from ATSDR or ATSDR's Cooperative Agreement Partners to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material. In order to prevent or mitigate exposures, a consultation may lead to specific actions, such as restricting use of or replacing water supplies; intensifying environmental sampling; restricting site access; or removing the contaminated material.

In addition, consultations may recommend additional public health actions, such as conducting health surveillance activities to evaluate exposure or trends in adverse health outcomes; conducting biological indicators of exposure studies to assess exposure; and providing health education for health care providers and community members. This concludes the health consultation process for this site, unless additional information is obtained by ATSDR or ATSDR's Cooperative Agreement Partner which, in the Agency's opinion, indicates a need to revise or append the conclusions previously issued.

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# LETTER HEALTH CONSULTATION

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Prepared By:

Florida Department of Health
Bureau of Environmental Public Health Medicine
Under Cooperative Agreement with
U.S. Department of Health and Human Services
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Charlie Crist
Governor

FLORIDA DEPARTMENT OF HEALTH

Ana M. Viamonte Ros, M.D., M.P.H.
Secretary

September 17, 2009

Daniel Hutto
Superintendent
Florida School for the Deaf and Blind
207 North San Marco Street
St Augustine, FL 32720

**RE: Florida School for the Deaf and Blind**

Dear Mr. Hutto:

## Statement of Issues

Florida statutes require that public schools notify teachers and parents of environmental contamination on school grounds. This health consultation reports the Florida Department of Health's (FDOH) evaluation of environmental contamination associated with dry cleaner solvents at the Florida School for the Deaf and Blind (FSDB). At FSDB, FDOH and the US Agency for Toxic Substances and Disease Registry's (ATSDR) top priority is to ensure that students, parents, and teachers have the latest and best possible health information.

The interpretation, advice, and recommendations presented in this report are site-specific. This report is not intended to address liability, or any other non-health issues.

In October 2008, the Florida Department of Environmental Protection (FDEP) requested FDOH assess the health threat and help FSDB put the risk into context. FDOH reviewed reports from FDEP and FSDB contractors. In addition, parents of students attending the school expressed concern about past site operations and possible future impacts to their children's health.

FSDB provided on-site dry cleaning services for student uniforms from 1950 until mid-1986 using tetrachloroethylene (PERC or PCE) as the primary cleaning agent. Past disposal practices resulted in the release of PCE into the environment, which contaminated subsurface soil and groundwater within a limited area near the former dry cleaning facility. These releases decreased in the mid 1980s, when the school discontinued dry-cleaning services and began to focus on environmental remediation. Currently, the FSDB uses the former dry cleaner as the schools facilities maintenance headquarters. FDEP has concluded that contaminants are migrating off-site toward the Atlantic Ocean.

## Background

FSDB was founded in 1883 at its present location of 207 San Marco Avenue, Florida in St. Augustine, St Johns County, Florida. The school provides free public education for eligible sensory-impaired students from pre-K through 12th grade as well as post secondary programs. FSBD is the largest school of its type in the United States, with an enrollment of over 750 students not including faculty and staff. In addition, FSDB provides room, board and transportation 5 days a week during the school year.

The FSDB campus consists of 47 buildings on 72 acres surrounded by a 14 feet high brick wall (Figure 1). Land use within a 1-mile radius is predominately tidal marsh/wetland and residential. Historically, the school receives potable water from the City of Augustine and is on city sewer. FSDB has never used on-site groundwater for irrigation. The nearest surface water feature is Hospital Creek, which drains to the Matanzas River. Hospital Creek borders the school to the north, east and west. The Atlantic Ocean is located approximately 1.3 miles east of the school.

**Figure 1. Site Boundaries (Source Google Earth, 2009)**

During replacement of two above-ground storage tanks (ASTs) that contained No.2 fuel oil for the facilities boilers in 1994, contractors discovered evidence of PCE contamination in on-site groundwater.

Starting in January 1996, consultants for FSDB completed several environmental assessments. These assessments identified two discrete zones of elevated dry cleaner solvents: shallow zone (21 to 27 feet) below land surface (bls) and an intermediate zone (34 to 38 feet) bls. In addition, assessment reports also identified an area approximately 4,625 square feet with PCE-impacted soil above the FDEP leachablity based Soil Target Clean-up Level, and a limited area above FDEP Residential Soil Target Clean-up Levels.

## Pathways analysis

Florida DOH determines exposure to environmental contamination by identifying exposure pathways. An exposure pathway is generally classified by the environmental medium (e.g., water, soil, air, food). A completed exposure pathway consists of five elements: a source of contamination; transport through an environmental medium, a point of exposure, a route of exposure, and a receptor population. A completed exposure pathway exists when people are actually exposed through ingestion or inhalation of, or by skin contact with a contaminated medium

*Subsurface Soil.* Contamination has been found near the campus maintenance area, along the northern property line. In May 1994, contractors for FSDB removed 56 cubic yards of contaminated soil next to the former dry cleaner (Universal 1994). Currently, students, staff and faculty cannot access contaminated subsurface soils due to asphalt covering most of the area of concern. A majority of the contaminated subsurface soils were removed. Therefore, FDOH considers this pathway eliminated.

*Groundwater.* Past dry cleaning operations contaminated on-site groundwater near the former dry cleaning building. However, FSDB never used on-site groundwater for drinking, showering or preparing food. General groundwater flow is away from student dorms and classrooms. Because on-site groundwater is not used as a drinking water source and water supplies located near the site have not been affected, no current exposures that could result in health hazards are present. In addition a subsurface retaining wall was constructed to prevent migration of contaminants toward student dorms and the school has never used on-site groundwater for irrigation. Therefore, FDOH considers this pathway eliminated.

*Vapor Intrusion.* The most recent data indicate that contaminants are moving away from on-campus student housing. Contamination is localized and is prevented from migrating underneath the floor slabs of student dorms and classrooms. Therefore, FDOH considers this pathway eliminated.

## Child Health Considerations

In communities faced with air, water, or food contamination, the many physical differences between children and adults demand special emphasis. Children could be at greater risk than are adults from certain kinds of exposure to hazardous substances. Children play outdoors and sometimes engage in hand-to-mouth behaviors that increase their exposure potential. Children are shorter than are adults; this means they breathe dust, soil, and vapors close to the ground. A child's lower body weight and higher intake rate results in a greater dose of hazardous substance per unit of body weight. If toxic exposure levels are high enough during critical growth stages, the developing body systems of children can sustain permanent damage. Finally, children are dependent on adults for access to housing, for access to medical care, and for risk identification. Thus adults need as much information as possible to make informed decisions regarding their children's health. Therefore, FDOH and ATSDR gave special consideration to the unique vulnerabilities of children at this school.

## Conclusions

FDOH and ATSDR conclude that dry cleaner solvents (PCE) found in subsurface soils and groundwater next to the former dry cleaning building on the FSDB campus are not expected to harm student's health.

**While the chemicals found in the groundwater <u>do</u> exceed cleanup levels, there is no risk of exposure because of the following factors:**

- *The area of contamination is under an impervious asphalt parking lot, which prevents any surface contact with contamination;*
- *The school uses only municipal water from an offsite location, which is distant from the contamination and regularly tested for safety;*
- *The school does not use irrigation wells so there is no risk of contact from that possible source; and*
- *The groundwater contamination is in an area far enough away from nearby school buildings that it poses no likely risk of vapor intrusion into indoor air.*

## Recommendations

- FSDB should continue monitor off-site potable drinking water wells.

- To prevent future exposure, FSDB should continue to restrict students from entering the former dry cleaning area and should continue with site remediation activities until clean-up goals are met.

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If parents have concerns about the health of their children, they should contact their health care provider. They may also call the Florida Department of Health at 1-877-798-2772 and ask for information about the FSDB site.

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Sincerely,

Ed McGregor
Health Assessor
Florida Department of Health
Bureau of Environmental Public Health Medicine

References

Universal Engineering Sciences. 1994. Contamination Assessment Report 1996 (Pages 4-6)

Geosyntec Consultants, 2007 Remedial Action Plan Modification Report 2007. (Pages 4 to 10)

Google Earth, Site Boundaries of FSDB, Saint Augustine, Saint Johns County, Florida. Figure1.

CERTIFICATION

The Florida Department of Health, Division of Environmental Health prepared this Health Consultation under a cooperative agreement with the Agency for Toxic Substances and Disease Registry. It followed approved methodology and procedures existing at the time it began and completed editorial review.

Jennifer Freed
Technical Project Officer,
CAT, CAPEB, DHAC

The Division of Health Assessment and Consultation, ATSDR, has reviewed this health consultation, and concurs with its findings.

Alan Yarbrough
Team Lead
CAT, CAPEB, DHAC, ATSDR