

School/Facility: Swansfield Elementary
Location: Second Grade Classroom (past and current)
Date of IEQ Report Form: January 18, 2017
Date(s) Investigated: January 25 and 27, 2017
ARIA Environmental IEQ Report – November 10, 2016
ARIA Environmental LEED Report – January 15, 2017
Date of Report: March 20, 2017

IEQ Concern:

Parent expressing concern regarding their child’s general health symptoms.

IEQ Investigation Process:

Identify deficiencies that may impact IEQ and/or sources of odor concerns. Typically includes the following depending on the nature of concern, but not limited to:

- interview/questionnaire of concern individual(s)
- inspection above drop ceiling (condition of roof deck, pipe insulation, return air plenum)
- inspection of ventilation system (operation of variable air volume box and outdoor air dampers, check controls, measurements of carbon dioxide, temperature and relative humidity, sources near outdoor air intake, measure return and supply air volume, cleanliness of coils, liner and condensate pan)
- inspection of exterior
- inspection below drop ceiling (housekeeping, sink and floor drain traps, signs of past and present moisture concern via visual and/or moisture meter, mold growth, ensure connection of current and capping of abandoned sanitary vents, odorizers, excessive plants and fabric items, identify potential pathways, and measure volatile organic compounds, carbon monoxide, and lighting)

Findings:

- A particle counter was used as an assessment tool to compare work area, non-work areas, pathways, and control measures. The work areas had the highest counts while the hall between the two work areas was approximately half the work area count. The occupied areas and hallways away from the work areas was significantly lower than the work areas and the hallway shared between the two work areas. Although the barriers between the work and non-work areas need some improvement, it appears dust is being controlled.
- Renovation Area(s)
 - The demolition phase was at completion in both work areas (areas now open space ready for rough-ins and slab work).

- The work area to the front of the school was under negative pressure (exterior door was open) while the back work area was under positive pressure. The Pod with the previous second grade classroom was under positive pressure.
- The barriers separating work and non-work areas consisted primarily of existing solid block walls extending to the roof deck. Drywall partitions (couple) only extended to the drop ceiling. Some ceiling tiles were missing in the non-work area hallways adjoining the work wall barriers.
- The temporary wood doors to the work areas from the occupied hallways were not tight, thus allowing sizeable air gaps.
- Each work zone is accessible from the exterior and construction personnel are to limit their use of the hallway between the two work zones. However, there are two small rooms under construction only accessible via this hallway.
- Construction dust was observed within the set of doors to the existing second grade pod and small ledges within the hallway shared between the two work areas.
- Several, various sized brown water stained ceiling tiles were observed within the hallways surrounding cafeteria, existing second grade pod, and between the two work zones.
- Daylight can be observed around the exterior door (nearby construction activities, bare dirt) serving annex room 153.
- ARIA Environmental Reports
 - The IEQ report dated February 23, 2017 (site visit November 10, 2016) did not indicate any concerns or recommendations.
 - The LEED report dated January 27, 2017 (site visit January 15, 2017) sampling took place within the existing second grade classroom. The concentrations were below the maximum allowable concentrations established by the U.S. Green Building Leadership in Energy and Environmental Design.

Corrective Actions:

- Building Services evaluated water ceiling tile stains and determined to be related to renovation activities.
- The Construction Office to address brown water stained ceiling tiles, improve (minimize air gaps) temporary doors used between work and occupied areas, install ceiling tiles in occupied areas that are adjacent to work area barrier walls, extend drywall partitions to the roof deck, and address air gaps around exterior door to existing second grade classroom (annex 153A).