

CASE STUDY: LEED BASELINE IAQ TESTING

Project Description: New School Construction - LEED Certification

Scope of Services: AET was contracted to perform baseline indoor air quality (IAQ) testing at a 1000 student newly constructed high school prior to occupancy. IAQ testing was performed as part of the Leadership in Energy and Environmental Design (LEED) Green Building Rating System to receive credits for the Construction IAQ Management Plan before occupancy.

IAQ testing was performed with all interior finishes (millwork, doors, carpeting, acoustical tiles, etc.) installed. Non-fixed furnishings such as work stations and partitions were also installed. Testing incorporated a 72 hour pre-occupancy flush out using the facilities HVAC system (operated at 100% outside air, 24 hours per day) to reduce indoor air pollutants from adhesives, caulks, paints, etc. and after cleaning of construction dust/debris throughout the facility.

AET's Sampling Protocol Included:

1. Representative IAQ samples of each LEED contaminant were taken based on the building size and configuration and design of the HVAC system.
2. Baseline IAQ tests were area samples at breathing zone height (4-5' above floor level) with sampling times ranging from 4-8 hours.
3. Testing was conducted during normal occupancy hours with the HVAC systems operating at minimum outside air flow rates.
4. Testing protocols were consistent with the EPA Compendium of Methods for the Determination of Air Pollutants in Indoor Air.

STANDARDS

LEED CONTAMINANT	LEED MAXIMUM CONCNETRATION	SOURCES
Formaldehyde	50 ppb	Pressed wood products, carpeting, fabric
Particulate (PM10)	50 ug/m ³	Fabrics, carpeting, construction dust/debris
TVOCs	500 ug/m ³	Adhesives, paints, carpeting, furnishings
4-Phenylcyclohexene (4-PCH)	6.5 ug/m ³	Carpeting or fabrics with styrene-butadiene rubber (SBR) latex backing
Carbon Monoxide	9 ppm and no >2 ppm above outdoors	Combustion sources

CONCLUSION: The new school construction met LEED criteria and gold certification as obtained for the entire project.

When you need professional industrial hygiene advice email Alan Sutherland, CIH, CHMM at a.sutherland@etinc.biz or call 610-891-0114 and reference AET Project #R479. We provide nationwide services; phone consultations are free. Check out the full range of environmental contracting/consulting services on our website www.etinc.biz.

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