

Indoor Air Quality Experience

Halliwell Engineering Associates (HEA) has had extensive experience in IAQ investigations and the remediation of mold/mildew growth, as well as failed building and mechanical systems. In addition, we have developed management plans and IAQ maintenance programs to help our clients pro-actively manage IAQ in their buildings. Listed are sample projects to highlight this experience.



Investigation/Cost Recovery Litigation

High Rise Condominium San Francisco, California

HEA was part of an investigation team for a condominium association claim against the developer, for water intrusion damage and microbial growth. The claim was settled for twelve million dollars.

Investigation/Remedial Design

World Resort Hotel Orlando, Florida

HEA was asked to investigate ground water intrusion problems in guestrooms of an 800 room resort hotel operated by a national hotel chain. Based on the findings of the inspection, HEA designed a ventilated gypsum wall board system to prevent water vapor diffusion and condensation on vinyl covered walls.

IAQ Study/Management Plan

National Real Estate Company Southern, Midwestern and Western States

HEA performed a national, multi-year investigative study of IAQ in over 1,000 commercial office buildings and large retail malls throughout the United States. Based on study findings, HEA was also responsible for the implementation and management of a pro-active, on-going IAQ program.

Investigation/Remediation

Regional Headquarters Building Winter Park, Florida

HEA diagnosed employee illnesses related to the buildings' systems that required over \$350,000 of remediation to prevent future microbial growth in the air-conditioning systems. Subsequent clearance testing by HEA documented a complete resolution which allowed employees to return to a healthy environment.

Survey/Remedial Design

State University Central, Florida

HEA provided a survey and redesign of the return air duct system at the administrative office facility following IAQ concerns occurring in the ceiling plenums.

Investigation/Remediation

Community Hospital Central, Florida

HEA investigated probable sources of Legionella bacterium in the hospital's domestic hot water and cooling tower system, after a staff member was diagnosed with Legionella. Active bacterium were discovered in the hot water system and an emergency sanitizing program was immediately developed and implemented at the facility.

Investigation/Cost-Recovery Litigation

High Rise Office Building San Diego, California

A claim by a tenant attorney regarding moisture diffusion through the building envelope and subsequent microbial growth, compelled the building's attorney to hire HEA. On-site extensive investigation of the building and the subsequent report provided the background material necessary for the owner's successful defense.

Remediation Plan

Research Facility Durham, New Hampshire

Design flaws were discovered in a newly constructed research facility, and HEA was called upon to develop a prioritized remediation plan to correct the original design errors which caused temperature, humidity and air pressure relationship problems.

Indoor Air Quality Experience -continued-

In the mid-1970s and 1980s as new building construction focused on energy efficiency, ironically the efforts to “tighten” buildings led to an increasing number of health complaints by occupants. The term “sick-building syndrome” has been used to refer to such complaints. Many reported illnesses have occurred in newly constructed or renovated buildings with inoperable windows and controlled ventilation.

Investigation

High Rise Office Building Atlanta, Georgia

HEA investigated a diagnosed case of Legionella in the building. Active bacterium was found in the cooling tower basins, and HEA assisted the treatment company in its elimination.

Investigation

Office Building Portland, Maine

HEA was called upon to investigate air quality complaints in a large office building, and subsequently found design errors and potential contamination of ventilation air from cooling tower vapor fallout.

Investigation/Remedial Design

High School Vero Beach, Florida

HEA provided field investigations and remedial design to correct ventilation deficiencies occurring between preconditioned outside air units and individual classroom conditioners.

Survey/Remediation Plan

Hospital Surgical Suite Providence, Rhode Island

After an initial survey, HEA was asked to develop a prioritized remediation plan to correct original design errors as well as system operational and control problems which caused humidity and pressurization problems.



Survey/Remedial Design

Hospital Gainesville, Florida

HEA provided an IAQ survey, engineering report and remedial design for TB isolation room ventilation as required by the U.S. Center for Disease Control. Recommendations and design included extensive modifications to the existing central air handling systems and central exhaust systems for 13 areas within the Hospital.

Investigation

Vocational-Technical Center Rockford, Illinois

HEA conducted an IAQ investigation and reported findings of mold and mildew problems in an 86,000 square foot high school vocational-technical center.

Survey/Remediation Plan

Shopping Mall Boston, Massachusetts

HEA was asked to perform an IAQ survey of this large facility, and issued a report on deficiencies and a detailed remediation plan.

Survey/Testing

Two Affiliated Hospitals Southwest, Florida

After several hospital staff contracted multiple drug resistant tuberculosis, HEA was called upon to complete a survey and testing of isolation rooms. Poor design and inadequate commissioning was determined to be the cause of transmission of droplet nuclei to staff corridors.