Indoor Air Quality

The Bethany Board of Education (Board) recognizes that the maintenance of acceptable temperature, relative humidity, and adequate fresh air ventilation in the school building is a primary objective in the creation and maintenance of an optimal learning environment.

Indoor Air Quality in Existing Facilities

The Superintendent or designee shall implement an indoor air quality program that provides for ongoing maintenance and facility reviews, in accordance with all applicable state statutes, necessary for the maintenance and improvement of the indoor air quality of all Bethany Public School District (District) facilities.

The District shall report biennially, in a manner as required, to the Commissioner of Education on the condition of its facilities, its long-range facilities program, its air quality program, and green cleaning program.

Prior to January 1, 2008 and every three (3) years thereafter, for any District facility that has been constructed, extended, renovated, or replaced on or after January 1, 2003, the Board shall provide for a uniform inspection and evaluation program of indoor air quality within such buildings, such as the Environmental Protection Agency's Indoor Air Quality for Schools Program. The results of the evaluation shall be made available for public inspection at a regularly scheduled Board meeting and also posted on the District's website.

The inspection and evaluation program shall include, but not be limited to, a review, inspection, or evaluation of the following:

1. the heating, ventilating, and air conditioning (HVAC) systems;
2. radon levels in the air and water;
3. potential for exposure to microbiological airborne particles, including fungi, mold, and bacteria;
4. chemical compounds of concern to indoor air quality, including volatile organic compounds;
5. pest infestation, including insects and rodents;
6. pesticide usage;
7. the presence and plans for removal of certain hazardous substances identified under federal law;
8. ventilation systems;
9. plumbing, including water distribution systems, drainage systems, and fixtures;
10. moisture incursion (leaks);
11. the facilities' overall cleanliness;
12. building structural elements, including roofing, basements, and slabs;
13. the use of space, particularly in areas designed to be unoccupied; and
14. the provision of indoor air quality maintenance training for building staff.

Heating, ventilation, and air conditioning systems shall be maintained in accordance with the prevailing maintenance systems, such as Standard 62. The Board directs the Superintendent or designee to ensure that such systems shall be operated continuously during the hours in which students or school personnel occupy District facilities except during periods of scheduled maintenance or emergency repairs or at other times when it can be demonstrated that the air supply system meets the Standards 62 requirements for air changes per hour.

Records shall be maintained on the maintenance of the District's heating, ventilation, and air conditioning systems for a period of not less than five (5) years. Such records shall be available to the public upon request.

Prior to January 1, 2024, and every five (5) years thereafter, the District shall provide a uniform information and evaluation of the heating, ventilation, and air conditioning system within the school building. Such inspection and evaluation shall be performed by a certified testing, adjusting, and balancing technician, an industrial hygienist certified by the American Board of Industrial Hygiene or the Board for Global EHS Credentialing, or a mechanical engineer. Such heating, ventilation, and air conditioning systems inspection and evaluation shall include, but need not be limited to:

1. Testing for maximum filter efficiency.
2. Physical measurements of outside air delivery rate.
3. Verification of the appropriate condition and operation of ventilation components.
4. Measurement of air distribution through all system inlets and outlets.
5. Verification of unit operation and that required maintenance has been performed in accordance with the most recent indoor ventilation standards promulgated by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers.
6. Verification of control sequences.
7. Verification of carbon dioxide sensors and acceptable carbon dioxide concentrations indoors.
8. Collection of field data for the installation of mechanical ventilation in none exist.

The ventilation systems inspection and evaluation shall identify to what extent each school's current ventilation system components, including any existing central or non-central mechanical ventilation system, are operating in such a manner as to provide appropriate ventilation to the school building in accordance with most recent indoor ventilation standards promulgated by the American Society of Heating, Refrigerating and Air-Conditioning Engineers. The inspection and evaluation shall result in a written report, and such report shall include any corrective actions necessary to be performed to the mechanical ventilation system or the heating, ventilation, and air conditioning infrastructure, including installation of filters meeting the most optimal level of filtration available for a given heating, ventilation and air conditioning system, installation of carbon dioxide sensors and additional maintenance, repairs, upgrades or replacement. Any such corrective actions shall be performed, where appropriate, by a contractor, who is licensed in accordance with Chapter 393. The District conducting an inspection and evaluation pursuant to this subsection shall make available for public inspection the results of such inspection and evaluation at a regularly scheduled meeting of such Board and on the Internet website of the District. The District shall not be required to provide for a uniform inspection and evaluation under this subdivision for any school building that will cease to be used as a school building within the three (3) years from when such inspection and evaluation is to be performed.

Indoor Air Quality in New or Renovated Facilities

In order to secure appropriate indoor air quality in the District buildings, the Board believes that when new facilities are constructed and when existing facilities are renovated, the following requirements shall be specified to the architect or design professional responsible for the construction project:

1. Adhere to the requirements defining minimum air circulation contained in the State Building Code which applies only when constructing new space.
2. The building/space meets or exceeds the ASHRAE (American Society of Heating, Refrigerating and Air Conditioning Engineers) 62-1999 standard, "Ventilation for Acceptable Indoor Air Quality," which considers chemical, physical and biological contaminants that can affect air quality as referenced by the State Code adopted pursuant to Connecticut General Statutes § 29-252.
3. Utilizing the ASHRAE 62-1999 standard, achieve a minimum ventilation rate per occupant of 15 cubic feet per minute (cfm) of outdoor air.
4. Design and placement of air handling equipment needs to be done in a manner where it is accessible to inspect and maintain the equipment; therefore, mechanical rooms are desirable versus exposed rooftop units or units hung above suspended ceilings.
5. With increased airflow requirements, attention must be given to the potential of air velocity noise within ductwork.
6. Fresh air intakes must be located, whenever possible, from all types of vents and exhausts on roofs.
7. Air intakes and ventilation windows must be sufficiently distant from bus loops and loading docks.
8. Radon mitigation systems to provide a vapor barrier and protection from under-slab humidity should be a part of new school construction.
9. Attention must be given to the selection of carpeting, carpet adhesives, and synthetic materials which may emit odorous and irritating volatile organic vapors degrading indoor air quality.
10. Reduce the potential of moisture intrusion through appropriately designed pitched roofs wherever possible.
11. Consider the economic feasibility of achieving dehumidification through air conditioning.
12. Install temperature control systems, which monitor temperature and other factors helpful in monitoring and diagnosing heating, ventilating, and air conditioning (HVAC) systems.
13. When renovating an occupied building provide for the mechanical control of airborne pollutants associated with the construction process.

Legal References: Connecticut General Statutes § 10-220
Connecticut General Statutes § 10-231(f)
Connecticut General Statutes § 10-282(19)
Connecticut General Statutes § 10-283
Connecticut General Statutes § 10-286(a)(9)
Connecticut General Statutes § 10-291
Connecticut General Statutes § 10-292
Connecticut General Statutes § 10-231g
Public Act 22-118

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