



**Department of Facilities Management
Division of Maintenance**

POOLESVILLE HS STAFF MEETING IAQ UPDATE

January 3, 2007

Sean Yarup, MPH



**Department of Facilities Management
Division of Maintenance**

AGENDA

- **Update staff on indoor air quality (IAQ)**
 - **Provide results of microbiological sampling**
 - **Update short and long term plans of action**
 - **Efforts to improve dehumidification**
 - **Air cleaning devices**
- **Discussion**



MICROBIOLOGICAL SAMPLING

June 5th - June 12th, 2006 (School-wide)

- **Microbiological sampling was conducted in randomly selected classrooms, including the media center, auditorium, and gymnasium on June 5th, 2006 and June 12th, 2006**
- **In the conclusions/recommendations section of the report:**
 - **“There were no visible signs of mold present in each of the selected sample areas.”**
 - **“The detected species were typical for an indoor environment and similar in species diversity and ranking to the outdoors.”**



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MICROBIOLOGICAL SAMPLING June 5th - June 12th, 2006 (School-wide)

- **Conclusions/recommendations section (continued):**
 - **“The HVAC units supplying the gymnasium and Room 9 should be inspected as the spore concentrations in both areas were similar to the outdoors.**
 - **“O&M maintenance should be continually performed. “**
 - **“There are no additional recommendations at this time.”**



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MICROBIOLOGICAL SAMPLING October 24, 2006 – Media Center

- **Microbiological sampling was conducted in the media center on October 24th, 2006**
- **In the conclusions/recommendations section of the report:**
 - **“The results for the evaluated parameters were acceptable and within recommended limits.**
 - **“Humidity levels should be maintained within recommended ranges at all times (including summers) especially in areas with moisture sensitive materials.”**



MICROBIOLOGICAL SAMPLING BACKGROUND INFORMATION

- In managing mold-related issues, MCPS typically follows guidelines from OSHA, CDC and EPA:
 - These agencies recommend removing mold; and finding and correcting the source of moisture rather than sampling.
 - No established regulations for judging what's acceptable
 - People have highly variable sensitivities to mold
- In the absence of regulations, and to alleviate ongoing concerns, MCPS may hire environmental professionals to conduct microbiological sampling.
 - If indoor mold concentrations are higher than outdoor mold concentrations (comparative analysis) or if a unique species is found indoors, this may be an indication of indoor mold contamination



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PLAN OF ACTION

- **Completed comprehensive microbiological sampling**
- **Developed short-term & long-term action plans to address IAQ-related issues**
- **Completed short-term action plan**
- **Implementing long-term action plan**



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SHORT-TERM ACTION PLAN

Action Item	Responsibility	Status
Sanitize pipe insulation	IAQ Team	Completed
Replace damp ceiling tiles	Bldg Services	Completed
Reduce negative pressure	Clarksburg Maintenance Depot (CMD), Bldg Services	Completed
Surface cleaning (Rms 4, 6, 35)	Bldg Services	Completed
Inspect other rooms for possible fungi	Bldg Services	Completed
Rebalance exhaust , OA dampers	CMD, Contractor	Completed
Instruct bldg staff not to set stats below 75F	Administration	Completed
Measure waterflow, pressure drops across coils	CMD	Completed
Repair/replace automatic isolation valves in univents where temporary drain pans are installed	CMD	Completed
Examine stained floor tiles for fungi (Rooms 20,22,22A,24,26)	IH Contractor	Completed



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SHORT-TERM ACTION PLAN

Action Item	Responsibility	Status
Remove stained floor tiles (Rooms 20,22,22A,24,26)	Flooring contractor	Completed
Treat, seal fungi-contaminated wood rafters (rm 44)	IAQ Team	Completed
Inspect above ceilings (other roof leak locations)	IAQ Team	Completed
Evaluate insulation on univent drain pans, repair/replace if needed	CMD	Completed
Repair pipe insulation in univents	CMD	Completed
Clean visible fungi/replace insulation in admin and auditorium air units	IAQ Team	Completed
Repair AHU C-1 coil leak	CMD	Completed
Inspect remaining DX units.	CMD	Completed
Resolve rodent problems (above rm 58, hall by 13)	IPM	Completed
Complete high dusting (rm 15)	Bldg Services	Completed



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LONG-TERM ACTION PLAN

- **Replace ventilation systems in four phases**
- **Pertains to entire school**
- **Work includes replacement of unit ventilators, fan coil units, air units, VAV boxes and controls**
- **Replace branch piping and old pipe insulation**



LONG-TERM ACTION PLAN: PHASE I

Action Item	Responsibility*	Status
Replace Media Center, Guidance and Main Office Air Units & associated branch piping and ductwork	IAQ/Construction	Completed
Replace horizontal ductwork at horizontal unit ventilators and at some fan coil units in Science wing.	IAQ/Construction	Completed
Replace horizontal and vertical unit ventilators, and associated branch piping, ductwork & insulation	IAQ/Construction	Design near completion. Expected job completion August 2007.



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LONG-TERM ACTION PLAN: PHASE II-IV

Action Item	Responsibility*	Status
Replace fan coil units and associated branch piping	IAQ/Construction	CIP
Replace piping and automatic isolation valves to convectors, coils and air units	IAQ/Construction	CIP
Replace old pipe insulation in each area	IAQ/Construction	CIP
Replace VAV and constant volume AHUs in each area. Upgrade controls to DDC.	IAQ/Construction	CIP
Rebalance air and water system	IAQ/Construction	CIP
Replace single pane windows	Construction	CIP



EFFORTS TO IMPROVE DEHUMIDIFICATION

- **Replaced air units in Media Center, Guidance and Main Office with air units having dehumidification systems**
- **New unit ventilators, boiler plant and other HVAC equipment will be controlled using an electronic direct digital control system**
 - **More accurate and more reliable than the pneumatic system currently in use**
- **Exhaust fans are being rebalanced and interlocked with unit ventilators to reduce negative pressure in building**



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HUMIDITY MONITORING

- **Continuous monitoring of humidity will be conducted by an independent environmental consultant in late Spring 2007.**
- **Portable dehumidifiers are available through the IAQ Office on an as-needed basis.**



AIR CLEANERS

- **Portable air cleaning devices are typically designed for residential use rather than larger classroom-type settings.**
 - **Because air cleaners only clean on a very localized basis, they would have limited effectiveness in the classroom.**
- **Regarding the usefulness of air cleaners EPA states:**
 - **“There is currently some controversy about how effectively air cleaners alleviate allergic reactions produced by larger particles such as pollen, house dust allergens, some molds and animal dander. The data presently available are inadequate to establish the utility of these devices in the prevention and treatment of allergic respiratory disease.”**



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AIR CLEANERS

- **Since regulatory agencies and consensus organizations question the effectiveness of portable air cleaners, MCPS does not purchase these devices for use in the school system.**
- **Oftentimes, air cleaners emit ozone, a respiratory irritant known to cause various health symptoms.**



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MCPS IEQ Team - Microsoft Internet Explorer

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MONTGOMERY COUNTY PUBLIC SCHOOLS Rockville, Maryland

ENVIRONMENTAL SERVICES / INDOOR AIR QUALITY
INDOOR ENVIRONMENTAL QUALITY (IEQ) TEAM

MCPS IEQ TEAM

MOST REQUESTED

- > [IAQ Complaint Forms](#)
- > [Approved Products List](#)
- > [What is a BMP?](#)


ABOUT INDOOR ENVIRONMENTAL QUALITY (IEQ)

- > [Tips for Teachers](#)
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JOB OPENINGS

CONTACT US

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Our Mission

To achieve, maintain, and where necessary, to restore an indoor air quality environment in which everyone in a Montgomery County Public Schools (MCPS) facility can perform the necessary tasks of learning, teaching, administering, and sustaining facilities in a safe and healthy manner.

About the IEQ Team

MCPS created the IEQ Team in 1999 to improve indoor environmental conditions in its facilities. The team consists of an environmental safety coordinator; environmental safety

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DISCUSSION

Points of Contact

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