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Risk Management Department

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August 10, 2005

TO: Ms. Stephanie Beville, Principal
Broward Estates Elementary School

FROM: Robert J. Krickovich, Coordinator, LEA
Facilities and Construction Management, Environmental Division

SUBJECT: Indoor Air Quality (IAQ) Assessment
FISH 120, 751, 754, 762 and 763

On August 2, 2005 the IAQ Assessment Team conducted an assessment of FISH 120, 751, 754, 762 and 763 at **Broward Estates Elementary School**. The evaluation consisted of a walkthrough of the identified areas to assess the current condition of the location with regard to indoor air quality. This assessment included observations of the carpet, floor tile, ceiling tile, interior walls, false ceiling plenum, and accessible ventilation equipment.

Attached are the findings of this assessment along with recommendations for further assessment, remediation, or corrective actions, if needed.

Generally, the IAQ Assessment did not identify any existing conditions significantly impacting IAQ and thereby presenting immediate health and safety concerns to building occupants. However, due to individual sensitivities and predisposing health factors, it is possible that some building occupants may elicit a health response to agents and / or conditions identified during the evaluation. Therefore, to further improve IAQ, prevent development of future IAQ-related problems, and to reduce the potential for IAQ-related complaints by building occupants, the IAQ Assessment Team recommends appropriate follow up of each item identified and listed in the attached evaluation.

Should any questions arise, or if the current concerns continue after the attached recommendations have been addressed, please feel free to contact me at 754-321-1638.

cc: Dr. Verda Farrow, Area Superintendent
Kevin Sawyer, Area Director
Jeffrey S. Moquin, Director, Risk Management
Rodney Williams, Project Manager II, Facilities and Construction Management
Jerrod Neal, Broward Teachers Union
Mark Dorsett, Manager 1, Physical Plant Operations Division, Zone 1
Roy Norton, Manager Custodial/Grounds, Physical Plant Operations Division

RK/tc
Enc.

IAQ Assessment

Broward Estates Elementary School

Evaluation Requested July 29, 2005

Time of Day 10:40 am

Evaluation Date August 2, 2005

Outdoor Conditions Temperature 89.5 Relative Humidity 59.6 Ambient CO2 452

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
120	72.1	72 - 78	56.3	30% - 60%	1074	Max 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Yes		No		No		None	
Ceiling Type	2 x 4 Lay In		No	No	None		
Wall Type	Drywall		Yes	No	Various		
Flooring	Carpet		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	No	Yes	Yes	Clean with Wexcide disinfectant
HVAC Return Grills	No	Yes	Yes	Clean with Wexcide disinfectant
Ceiling at Supply Grills	No	Yes	Yes	Clean as appropriate
Surfaces in Room	Yes	No	No	

Observations

Findings:

- Damaged drywall at sink cabinet (left side of base)
- Backsplash of sink area not caulked
- Damaged drywall at windows
- Dust and debris on HVAC supply and return grills
- Dust and debris on ceiling at HVAC supply grills

Recommendations:

Site Based Maintenance:

- Clean HVAC supply and return grills with Wexcide disinfectant solution
- Clean ceiling at HVAC supply grills as appropriate
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

Physical Plant Operations Division:

- Evaluate and repair damaged drywall at sink cabinet and around windows
- Caulk sink backsplash
- Evaluate and repair/seal windows to prevent water intrusion

IAQ Assessment

Broward Estates Elementary School

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Time of Day 10:40 am

Evaluation Date August 2, 2005

Outdoor Conditions Temperature 89.5 Relative Humidity 59.6 Ambient CO2 452

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
751	79.8	72 - 78	70.5	30% - 60%	466	Max 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		No		No		None	
Ceiling Type	2 x 2 Lay In		No	No	None		
Wall Type	Drywall		Yes	Yes	One square foot over windows		
Flooring	12 x 12 Vinyl		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	No	Yes	Yes	Clean as appropriate
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings:

- HVAC was off at time of assessment
- Visible microbial growth on wall over window (left side - one square foot)
- Laminated papers attached to exterior walls

Recommendations:

Site Based Maintenance:

- Clean walls with Wexcide disinfectant solution
- Avoid attaching laminated papers to exterior walls
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

Physical Plant Operations Division:

- Evaluate HVAC system for proper operation
- Re-program thermostats and instruct school based staff on thermostat operation

IAQ Assessment

Broward Estates Elementary School

Evaluation Requested July 29, 2005

Time of Day 10:40 am

Evaluation Date August 2, 2005

Outdoor Conditions Temperature 89.5 Relative Humidity 59.6 Ambient CO2 452

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
754	75	72 - 78	69.9	30% - 60%	494	Max 700 > Ambient	5
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		No		No		None	
Wall Type		Yes		Yes		8 square feet over windows	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	No	Yes	Yes	Clean as appropriate
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings:

- Windows open at time of assessment
- Visible microbial growth on wall over window (8 square feet)
- Laminated papers attached to exterior walls

Recommendations:

Site Based Maintenance:

- Keep windows and doors closed. Open windows and doors allow humid untreated air into occupied environment.
- Clean walls with Wexcide disinfectant solution
- Avoid attaching laminated papers to exterior walls
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

Physical Plant Operations Division:

- Evaluate HVAC system for proper operation
- Re-program thermostats and instruct school based staff on thermostat operation

IAQ Assessment

Broward Estates Elementary School

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Time of Day 10:40 am

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Outdoor Conditions Temperature 89.5 Relative Humidity 59.6 Ambient CO2 452

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
762	72.4	72 - 78	64.1	30% - 60%	429	Max 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		No		No		None	
Ceiling Type	2 x 2 Lay In		No	No	None		
Wall Type	Drywall		Yes	Yes	Various		
Flooring	12 x 12 Vinyl		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	No	Yes	Yes	Clean as appropriate
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings:

- Visible microbial growth on walls over windows

Recommendations:

Site Based Maintenance:

- Clean walls with Wexcide disinfectant solution
- Avoid attaching laminated papers to exterior walls
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

Physical Plant Operations Division:

- Evaluate HVAC system for proper operation
- Re-program thermostats and instruct school based staff on thermostat operation

IAQ Assessment

Broward Estates Elementary School

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Outdoor Conditions Temperature 89.5 Relative Humidity 59.6 Ambient CO2 452

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
763	78.5	72 - 78	61.5	30% - 60%	446	Max 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		No		No		None	
Wall Type		Yes		Yes		2 square feet	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	No	Yes	Yes	Clean as appropriate
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings:

- Visible microbial growth on wall over window (left side - one square foot) and under light switch (one square foot)
- Laminated papers attached to exterior walls

Recommendations:

Site Based Maintenance:

- Clean walls with Wexcide disinfectant solution
- Avoid attaching laminated papers to exterior walls
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

Physical Plant Operations Division:

- Evaluate HVAC system for proper operation
- Re-program thermostats and instruct school based staff on thermostat operation
- Evaluate and repair cause of microbial growth under light switch and also growth in storage room that backs up to this wall (both walls back up to the restroom in the classroom)