

Jeffrey S. Moquin, Director
Risk Management Department

Telephone: 754-321-3200
Facsimile: 754-321-3290

November 6, 2006

Signature on File

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

FROM: Aston A. Henry, Jr., Supervisor
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment
FISH 115, 115A & F, 120, 762 and 766

On October 24, 2006 I conducted an assessment of FISH 115, 115A & F, 120, 762 and 766 at **Broward Estates Elementary School**. This evaluation included observations of the flooring system, ceiling tiles, false ceiling plenum, environmental surfaces, interior and exterior walls, and the accessible ventilation equipment. Additionally, environmental parameter measurements were taken to include temperature, relative humidity, and carbon dioxide. The detailed findings, along with the recommended corrective action can be found on the attached IAQ Assessment Worksheets.

The IAQ assessment did identify one or more existing conditions impacting IAQ and has generated appropriate work orders to correct deficiencies in systems and maintenance that could contribute to decreased indoor air quality. At the time of the assessment, these concerns were not an immediate health or safety concern 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 754-321-3200.

cc: Dr. Verda Farrow, Area Superintendent
Michaelle Pope, Area Director
Jeffrey S. Moquin, Director, Risk Management
David Herrmann, Project Manager, Facilities and Construction Management
Jerrold Neal, Broward Teachers Union
Mark Dorsett, Manager 1, Physical Plant Operations Division, Zone 1
Roy Norton, Manager Custodial/Grounds, Physical Plant Operations Division
Robert Krickovich, Coordinator, LEA, Facilities and Construction Management

AAH/tc
Enc.

IAQ Assessment

Location Number 0501

Broward Estates Elementary

Evaluation Requested October 24, 2006

Time of Day 2:16 pm

Evaluation Date October 24, 2006

Outdoor Conditions Temperature 73.2 Relative Humidity 38.8 Ambient CO2 374

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
115	71.5	72 - 78	65.3	30% - 60%	764	Max 700 > Ambient	7
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Yes		No		No		None	
Ceiling Type	Drywall		No	No	None		
Wall Type	Drywall		No	No	None		
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	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills				N/A
Surfaces in Room	Yes	No	No	

Observations

Findings:

- Temperature was low and humidity level was elevated
- Visible microbial growth on several books

Recommendations:

Site Based Maintenance:

- Contact Learning Resources to evaluate and remove books with microbial growth from the room
- 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:

- Evaluate and repair HVAC system to increase temperature and lower humidity level

IAQ Assessment

Location Number 0501
 Evaluation Requested October 24, 2006
 Evaluation Date October 24, 2006

Broward Estates Elementary

Time of Day 2:16 pm

Outdoor Conditions Temperature 73.2 Relative Humidity 38.8 Ambient CO2 374

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
115A & F	71.5	72 - 78	65.3	30% - 60%	764	Max 700 > Ambient	
Noticeable Odor	Yes		Visible water damage / staining?		Visible microbial growth?		Amount of material affected
Ceiling Type	2 x 4 Lay In		Yes		No		Various
Wall Type	Drywall		Yes		No		Various
Flooring	Carpet		No		No		None

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace ceiling tiles
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				N/A
Surfaces in Room	Yes	No	No	

Observations

Findings:

- Temperature was low and humidity level was elevated
- Stained ceiling tiles in FISH 115A and 115F
- Staining on walls

Recommendations:

Site Based Maintenance:

- Clean walls with Wexcide disinfectant solution to remove staining
- 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:

- Evaluate and repair HVAC system to increase temperature and lower humidity level
- Evaluate for cause of stained ceiling tiles in FISH 115A and 115F and repair. Remove and replace stained ceiling tiles as appropriate.

IAQ Assessment

Location Number 0501
 Evaluation Requested October 24, 2006
 Evaluation Date October 24, 2006

Broward Estates Elementary

Time of Day 1:09 pm

Outdoor Conditions Temperature 73.2 Relative Humidity 38.8 Ambient CO2 374

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
120	67.8	72 - 78	65.9	30% - 60%	816	Max 700 > Ambient	21
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Yes		Yes		3 ceiling tiles	
Wall Type		Yes		No		West wall	
Flooring		No		No		None	

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

Observations

Findings:

- Temperature was low and humidity level was elevated
- Stained ceiling tiles in FISH 120A with visible microbial growth around HVAC supply grills
- Elevated moisture content in West wall under the windows and paint is bubbling
- Visible cracks on exterior wall - West (possible source of water intrusion)

Recommendations:

Site Based Maintenance:

- 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:

- Evaluate and repair HVAC system to increase temperature and lower humidity level
- Evaluate for cause of stained ceiling tiles in FISH 120A and repair. Remove and replace stained ceiling tiles as appropriate.
- Evaluate for leaks and repair as appropriate. Visible cracks on exterior wall may be source of water intrusion. Remove and replace wall material as appropriate.

IAQ Assessment

Location Number 0501
 Evaluation Requested October 24, 2006
 Evaluation Date October 24, 2006

Broward Estates Elementary

Time of Day 12:00 pm

Outdoor Conditions Temperature 73.2 Relative Humidity 38.8 Ambient CO2 374

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
762	74.7	72 - 78	43.6	30% - 60%	1034	Max 700 > Ambient	20
Noticeable Odor	No		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	2 x 4 Lay In		Yes	No	ceiling tiles around exhaust		
Wall Type	Drywall		No	No	None		
Flooring	Carpet		No	No	None		

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

Observations

Findings:

- Plug in air freshener in room
- Environment parameters were within range at the time of the assessment. Walls were dry and false ceiling plenum was clean and dry.
- Dust and debris on HVAC supply grills
- Minor dust build up on environmental surfaces
- Stained ceiling tiles around the stove exhaust vent
- Dust and debris on A/C filters throughout BUILDING 75

Recommendations:

Site Based Maintenance:

- Remove plug in air freshener
- Clean HVAC supply grills with Wexcide disinfectant solution
- Clean environmental surfaces
- Remove and replace all A/C filters in BUILDING 75
- 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:

- Reseal roof area around exhaust vent to prevent water intrusion and remove and replace stained ceiling tiles as appropriate.

IAQ Assessment

Location Number 0501
 Evaluation Requested October 24, 2006
 Evaluation Date October 24, 2006

Broward Estates Elementary

Time of Day 12:21 pm

Outdoor Conditions Temperature 73.2 Relative Humidity 38.8 Ambient CO2 374

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
766	74.5	72 - 78	47.4	30% - 60%	703	Max 700 > Ambient	3
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Yes		Yes		No		ceiling tiles around exhaust	
Ceiling Type	2 x 4 Lay In		Yes	No		ceiling tiles around exhaust	
Wall Type	Drywall		No	Yes		One wall - Minor	
Flooring	Carpet		No	No		None	

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

Observations

Findings:

- Odor from Potpourri in room
- Environment parameters were within range at the time of the assessment. Walls were dry and false ceiling plenum was clean and dry.
- Minor microbial growth on one wall
- Dust and debris on HVAC return grills
- Dust build up on environmental surfaces
- Stained ceiling tiles around the stove exhaust vent
- Dust and debris on A/C filters throughout BUILDING 75

Recommendations:

Site Based Maintenance:

- Remove Potpourri from room
- Clean HVAC return grills with Wexcide disinfectant solution
- Clean wall with Wexcide disinfectant solution to remove small area of microbial growth
- Thoroughly clean environmental surfaces
- Remove and replace all A/C filters in BUILDING 75
- 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:

- Reseal roof area around exhaust vent to prevent water intrusion and remove and replace stained ceiling tiles as appropriate.