

managing risk with responsibility

Jeffrey S. Moquin, Director Risk Management Department

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Signature on File

TO:	Ms. Maria Bach, Principal Challenger Elementary School
FROM:	Kenneth I. Partee, Project Manager, Occupational Health and Environmental Control Risk Management Department
SUBJECT:	Indoor Air Quality (IAQ) Assessment FISH 154, 155, 157, 159, 161 and 163

On August 11, 2006 the IAQ Assessment Team conducted an assessment of FISH 154, 155, 157, 159, 161 and 163 at **Challenger 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. Harry LaCava, Area Superintendent
Willie Dudley, Area Director
Jeffrey S. Moquin, Director, Risk Management
Charles Ricks, Project Manager, Facilities and Construction Management
Gary Itzkowitz, 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

KP/tc Enc.

		IAQ As	sessment	Location Number	3771
	Challenger Elem	entary School		Evaluation Requested	August 11, 2006
Time of Day 2:15	5 pm			Evaluation Date	August 11, 2006
Outdoor Conditions	Temperature	96.6	Relative Humidity	43 Ambie	ent CO2 526
Fish Tempera	ature Range	Relative Humidity	Range	CO2 Rar	nge # Occupants
154	72 - 78		30% - 60%	Max 700	> Ambient
Noticeable Odor		Visible water damage / staining	Visible micro ? growth?	bial Amount of ma affected	terial
Ceiling Type		No	No		None
Wall Type		Νο	No		None
Flooring		No	No		None
	Clean Minor D / Debr Yes No			Corrective Action Re	equired
Walls [Yes	No			
Flooring [Yes No	No			
HVAC Supply Grills	Yes No	No			
HVAC Return Grills	Yes No	No			
Ceiling at Supply [Grills	Yes	No			
Surfaces in Room [Yes	No			

Findings: Air Handler Room

- Visible microbial growth on insulation for chilled water lines

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 cause of visible microbial growth on chilled water line insulation and repair/replace as appropriate

			IAQ As	sessment	Locatio	on Number	3771	
	Challe	enger Elemer	ntary School		Evaluat	ion Requested	August	11, 2006
Time of Day	1:40 pm]			E	Evaluation Date	August	11, 2006
Outdoor Condit	ions Ter	nperature	96.6	Relative Humic	lity 43	Ambie	nt CO2	526
		Range R	Relative Humidity	Range	CO2	Ran	ige #	Occupants
155	70.4	72 - 78	55.8	30% - 60%	511	Max 700	> Ambient	2
Noticeable Odd	or No] .	Visible water damage / staining	Visible m ? grow		Amount of ma affected	terial	
Ceiling Type	2 x 4 Lay	' In	No	No			None	
Wall Type	Plaster	·	Yes	Yes	3	2 sec	tions 1' x 1'	
Flooring	Tile		No	No			None	
	Clean	Minor Du / Debris			Correc	ctive Action Re	equired	
Ceiling	Yes	No	No					
Walls	No	Yes	Yes		Clean wit	h Wexcide dis	infectant	
Flooring	Yes	No	No					
HVAC Supply G	Grills Yes	No	No					
HVAC Return G	Grills Yes	No	No					
Ceiling at Supp Grills	ly Yes	No	No					
Surfaces in Roo	om Yes	No	No					

Findings:

- Visible microbial growth on shared door and on North wall to the left of the clock

- Humidity level was higher than outside

Recommendations:

Site Based Maintenance:

- Clean walls with Wexcide disinfectant solution

- 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 cause of elevated humidity level (higher than outside). Check range hood for uncontrolled outside air.

			IAQ As	sessment	Locati	on Number	3771	
	Challeng	er Elementary	y School		Evaluat	tion Requested	August	11, 2006
Time of Day	1:55 pm				l	Evaluation Date	August	11, 2006
Outdoor Condition	s Tempe	erature 9	6.6	Relative Hum	nidity 43	Ambie	nt CO2	526
Fish Tem	perature Rai	nge Relat	tive Humidity	Range	CO2	Ran	ige #	Occupants
157	70.8 72 -	78	56.1	30% - 60%	534	Max 700	> Ambient	t 2
Noticeable Odor	No		isible water age / staining		microbial wth?	Amount of ma affected	terial	
Ceiling Type	2 x 4 Lay In		No	Ν	10		None	
Wall Type	Plaster		Yes	Y	es	\ \	/arious	
Flooring	Tile		No		10		None	
	Clean I	Minor Dust / Debris	Needs Cleaning	l	Corre	ctive Action Re	equired	
Ceiling	Yes	Νο	No					
Walls	No	Yes	Yes		Clean wit	th Wexcide dis	infectant	
Flooring	Yes	No	No					
HVAC Supply Grill	s Yes	No	No					
HVAC Return Grill	s Yes	No	No					
Ceiling at Supply Grills	Yes	Νο	No					
Surfaces in Room	Yes	Νο	No					

Findings:

- Visible microbial growth on wall above whiteboard (right top corner), under whiteboard (right) and next to range hood

- Visible microbial growth inside CD drive and on speakers of the center computer (row of 3)

- Humidity level was higher than outside

Recommendations:

Site Based Maintenance:

- Clean walls with Wexcide disinfectant solution

- 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 cause of elevated humidity level (higher than outside)

			IAQ As	sessment	Locatio	on Number	3771	
	Challen	ger Elementa	ary School		Evaluat	ion Requested	August	11, 2006
Time of Day	2:00 pm				I	Evaluation Date	August	11, 2006
Outdoor Condition	s Temp	erature	96.6	Relative Humidi	ty 43	Ambie	nt CO2	526
Fish Temp	perature Ra	ange Rel	ative Humidity	Range	CO2	Ran	ige #	Occupants
159	70.5 72	- 78	60.1	30% - 60%	529	Max 700	> Ambient	t 5
Noticeable Odor	No		Visible water nage / staining	Visible mic growtl		Amount of mat affected	terial	
Ceiling Type	2 x 4 Lay Ir	l	Νο	No]		None	
Wall Type	Plaster		Yes	Yes]	V	/arious	
Flooring	Tile		No	No]		None	
	Clean	Minor Dust / Debris	Needs Cleaning		Corre	ctive Action Re	equired	
Ceiling	Yes	Νο	No					
Walls	Νο	Yes	Yes		Clean wit	h Wexcide disi	infectant	
Flooring	Yes	No	No					
HVAC Supply Grill	s Yes	No	No					
HVAC Return Grills	s Yes	Νο	No					
Ceiling at Supply Grills	Yes	Νο	No					
Surfaces in Room	Νο	Yes	Yes		Clean wit	h Wexcide disi	infectant	

Findings:

- Visible microbial growth at range hood

- Visible microbial growth on right arm of wooden rocking chair and on kindergarten furniture (stoves)

- Humidity level was higher than outside

Recommendations:

Site Based Maintenance:

- Clean wall at range hood with Wexcide disinfectant solution

- Clean furniture with Wexcide disinfectant solution

- 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 cause of elevated humidity level (higher than outside)

			IAQ As	sessment	Locatio	on Number	3771	
	Challe	nger Elementa	ary School		Evaluat	ion Requested	August	11, 2006
Time of Day	2:15 pm				E	Evaluation Date	August	11, 2006
Outdoor Conditi	ions Tem	perature	96.6	Relative Hum	idity 43	Ambie	nt CO2	526
Fish Te		Range Rel	ative Humidity	Range	CO2	Ran	ige #	Occupants
161	70.3 7	2 - 78	59.1	30% - 60%	561	Max 700	> Ambient	3
Noticeable Odo	or Yes		Visible water mage / staining		microbial wth?	Amount of mat affected	terial	
Ceiling Type	2 x 4 Lay	In	No	Ν	0		None	
Wall Type	Plaster		Yes	Ye	es	V	/arious	
Flooring	Tile		No	Ν	0		None	
	Clean	Minor Dust / Debris	Needs Cleaning		Correc	ctive Action Re	equired	
Ceiling	Yes	No	No					
Walls	Νο	Yes	Yes		Clean wit	h Wexcide disi	infectant	
Flooring	Yes	No	No					
HVAC Supply G	Grills Yes	No	No					
HVAC Return G	rills Yes	Νο	Νο					
Ceiling at Supp Grills	ly Yes	No	No					
Surfaces in Roc	om No	Yes	Yes		Clean wit	h Wexcide disi	infectant	

Findings:

- Visible microbial growth around range hood and box and on wooden stove

- Visible microbial growth on wood furniture

- Humidity level was higher than outside

Recommendations:

Site Based Maintenance:

- Clean walls with Wexcide disinfectant solution

- Clean wooden furniture with Wexcide disinfectant solution

- 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 cause of elevated humidity level (higher than outside)

			IAQ As	sessment	Locati	on Number	3771
	Cha	llenger Elemen	tary School		Evaluat	ion Requested	August 11, 2006
Time of Day	2:15 pm				I	Evaluation Date	August 11, 2006
Outdoor Cond	itions To	emperature [96.6	Relative Humic	dity 43	Ambie	nt CO2 526
Fish	Temperature	Range R	elative Humidity	Range	CO2	Ran	ge # Occupants
163		72 - 78		30% - 60%		Max 700	> Ambient
Noticeable Oc	dor	d	Visible water amage / staining	Visible m ? grow		Amount of ma affected	terial
Ceiling Type			No	No	•		None
Wall Type			No	No	•		None
Flooring			No	No)		None
	Clean	Minor Dus / Debris	st Needs Cleaning		Corre	ctive Action Re	quired
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 Sup Grills	oply Yes	No	No				
Surfaces in Ro	oom Yes	No	No				

Findings: Air Handler Room

- Visible microbial growth on insulation for chilled water lines

- Dust and debris on A/C filters (AHU 1-13)

Recommendations:

Site Based Maintenance:

Remove and replace A/C filters and tape filters together 100% of length
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 cause of visible microbial growth on chilled water line insulation and repair/replace as appropriate