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November 21, 2005

**Signature on File**

TO: Ms. Kathleen Goldstein, 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 131, 132, 133 and 158

On November 10, 2005 the IAQ Assessment Team conducted an assessment of FISH 131, 132, 133 and 158 at **Challenger 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 754-321-3200.

cc: Dr. Harry LaCava, Area Superintendent  
Willie Dudley, Area Director  
Jeffrey S. Moquin, Director, Risk Management  
Charles Ricks, Project Manager II, 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 Assessment

Location Number   
 Evaluation Requested   
 Evaluation Date

Challenger Elementary School

Time of Day

Outdoor Conditions      Temperature       Relative Humidity       Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="131"/>	<input type="text" value="73.1"/>	<input type="text" value="72 - 78"/>	<input type="text" value="48.3"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="1270"/>	<input type="text" value="Max 700 &gt; Ambient"/>	<input type="text" value="28"/>
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>	
Ceiling Type	<input type="text" value="2 x 4 Lay In"/>		<input type="text" value="No"/>	<input type="text" value="No"/>		<input type="text" value="None"/>	
Wall Type	<input type="text" value="Plaster"/>		<input type="text" value="No"/>	<input type="text" value="Yes"/>		<input type="text" value="Various"/>	
Flooring	<input type="text" value="Tile"/>		<input type="text" value="No"/>	<input type="text" value="No"/>		<input type="text" value="None"/>	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Walls	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean with Wexcide disinfectant solution"/>
Flooring	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Supply Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Return Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Ceiling at Supply Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Surfaces in Room	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>

**Observations**

**Findings:**  
 - Visible microbial growth identified on walls and doors - plastic coated paper on walls

**Recommendations:**

**Site Based Maintenance:**  
 - Remove plastic coated paper from walls and clean walls and doors 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

# IAQ Assessment

Location Number 3771

Challenger Elementary School

Evaluation Requested October 14, 2005

Time of Day 1:00 pm

Evaluation Date November 10, 2005

Outdoor Conditions      Temperature 89.8      Relative Humidity 35.1      Ambient CO2 544

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<span style="border: 1px solid black; padding: 2px;">132</span>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;">72 - 78</span>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;">30% - 60%</span>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;">Max 700 &gt; Ambient</span>	<span style="border: 1px solid black; padding: 2px;"></span>
Noticeable Odor	<span style="border: 1px solid black; padding: 2px;">No</span>		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	<span style="border: 1px solid black; padding: 2px;"></span>		<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>		
Wall Type	<span style="border: 1px solid black; padding: 2px;"></span>		<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>		
Flooring	<span style="border: 1px solid black; padding: 2px;"></span>		<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>	<span style="border: 1px solid black; padding: 2px;"></span>		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;"></span>
Walls	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;"></span>
Flooring	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;"></span>
HVAC Supply Grills	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;"></span>
HVAC Return Grills	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;"></span>
Ceiling at Supply Grills	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;"></span>
Surfaces in Room	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;"></span>

**Observations**

**Findings: (Air Handler Room)**

- Visible microbial growth identified on 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 Division:**

- Evaluate for cause of visible microbial growth on chilled water lines and repair/replace as appropriate

**Hurricane Related**

# IAQ Assessment

Location Number   
 Evaluation Requested   
 Evaluation Date

Challenger Elementary School

Time of Day

Outdoor Conditions      Temperature       Relative Humidity       Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="133"/>	<input type="text" value="72.8"/>	<input type="text" value="72 - 78"/>	<input type="text" value="47.9"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="1065"/>	<input type="text" value="Max 700 &gt; Ambient"/>	<input type="text" value="19"/>
Noticeable Odor	<input type="text" value="No"/>		Visible water damage / staining?		Visible microbial growth?		Amount of material affected
Ceiling Type	<input type="text" value="2 x 4 Lay In"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>
Wall Type	<input type="text" value="Plaster"/>		<input type="text" value="No"/>		<input type="text" value="Yes"/>		<input type="text" value="Various"/>
Flooring	<input type="text" value="Tile"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Walls	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean with Wexcide disinfectant solution"/>
Flooring	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Supply Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Return Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Ceiling at Supply Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Surfaces in Room	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>

**Observations**

**Findings:**  
 - Visible microbial growth identified on walls and doors - plastic coated paper on walls

**Recommendations:**

**Site Based Maintenance:**  
 - Remove plastic coated paper from walls and clean walls and doors 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

# IAQ Assessment

Location Number 3771  
 Evaluation Requested October 14, 2005  
 Evaluation Date November 10, 2005

Challenger Elementary School

Time of Day 1:00 pm

Outdoor Conditions      Temperature 89.8      Relative Humidity 35.1      Ambient CO2 544

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
158	72.4	72 - 78	44	30% - 60%	1493	Max 700 > Ambient	18
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		No		No		None	
Wall Type		No		Yes		Various	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	No	Yes	Yes	Clean with Wexcide disinfectant solution
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	No	Yes	Yes	Clean exhaust fan blade with Wexcide

**Observations**

**Findings:**  
 - Visible microbial growth identified on walls and exhaust fan blades

**Recommendations:**

**Site Based Maintenance:**  
 - Clean walls and exhaust fan blades 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 Division:**  
 - Evaluate for leak at range hood and repair as appropriate

Hurricane Related