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March 17, 2008

Signature on File

TO: Mr. Brian Kohli, Principal
Floranada Elementary School

FROM: Edward See, Project Manager
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment
FISH 101E, 155, 157 and 212

<u>For Custodial Supervisor Use Only</u>	
<input type="checkbox"/>	Custodial Issues Addressed
<input type="checkbox"/>	Custodial Issues Not Addressed

On March 6, 2008 I conducted an assessment of FISH 101E, 155, 157 and 212 at **Floranada 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.

Please ensure that your Head Facilities Serviceperson receives a copy of this correspondence so that the recommendations requiring their attention can be addressed. Within two weeks a representative from the Custodial/Grounds Department will conduct a follow-up visit to ensure that all issues have been appropriately addressed.

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. Leontine Butler, Area Superintendent
Toni Weissberg, Area Director
Jeffrey S. Moquin, Director, Risk Management
Henry Verdugo, Project Manager, Facilities and Construction Management
Dane Ramson, Broward Teachers Union
Roy Jarrett, Federation of Public Employees
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

ES/tc
Enc.

IAQ Assessment

Location Number
 Evaluation Requested
 Evaluation Date

Floranada 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="101E"/>	<input type="text" value="72.5"/>	<input type="text" value="72 - 78"/>	<input type="text" value="53.1"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="863"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text" value="1"/>
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="Drywall/Plaster"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		
Flooring	<input type="text" value="12 x 12 Vinyl"/>		<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="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
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:
 - 15 stuffed animals in room. Please note that stuffed animals are a source of allergens and dust accumulation.

Recommendations:

Site Based Maintenance:
 - Advise occupant to clean and/or wash stuffed animals regularly or remove from room
 - 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 0851
 Evaluation Requested February 26, 2008
 Evaluation Date March 6, 2008

Floranada Elementary School

Time of Day 2:30 pm

Outdoor Conditions Temperature 78.2 Relative Humidity 87.7 Ambient CO2 506

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
155	74.3	72 - 78	61	30% - 60%	664	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 4 Lay In		No	No	None		
Wall Type	Drywall/Plaster		No	No	None		
Flooring	12 x 12 Vinyl		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	No	Yes	Yes	Clean with Wexcide disinfectant solution
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings:

- Humidity was slightly elevated at the time of the assessment
- Dust and debris on HVAC return grill in restroom

Recommendations:

Site Based Maintenance:

- Clean HVAC return grills 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 HVAC for proper operation and repair as appropriate to lower humidity level

IAQ Assessment

Location Number
 Evaluation Requested
 Evaluation Date

Floranada 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="157"/>	<input type="text" value="72.4"/>	<input type="text" value="72 - 78"/>	<input type="text" value="64.5"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="643"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text" value="2"/>
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="Drywall/Plaster"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		
Flooring	<input type="text" value="12 x 12 Vinyl"/>		<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="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
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="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean with Wexcide disinfectant solution"/>
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:
 - Humidity was slightly elevated at the time of the assessment
 - Dust and debris on HVAC return grill in restroom

Recommendations:

Site Based Maintenance:
 - Clean HVAC return grills 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 HVAC for proper operation and repair as appropriate to lower humidity level

IAQ Assessment

Location Number 0851
 Evaluation Requested February 26, 2008
 Evaluation Date March 6, 2008

Floranada Elementary School

Time of Day 2:30 pm

Outdoor Conditions Temperature 78.2 Relative Humidity 87.7 Ambient CO2 506

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
212	71.2	72 - 78	53.4	30% - 60%	820	Max 700 > Ambient	1
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Yes		No		3 ceiling tiles	
Wall Type		No		No		None	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Generate work order to remove and replace
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	No	Yes	Yes	Clean with Wexcide disinfectant solution
HVAC Return Grills	No	Yes	Yes	Clean with Wexcide disinfectant solution
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings:

- Dust and debris on HVAC supply and return grills
- 3 stained ceiling tiles

Recommendations:

Site Based Maintenance:

- Clean HVAC supply and return grills with Wexcide disinfectant solution
- Contact Physical Plant Operations to generate a work order to replace stained ceiling tiles (require cuts)
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate