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August 12, 2009

Signature on File

TO: Ms. Christine Flynn, Principal
Deerfield Beach Middle School

FROM: Robert Krickovich, Coordinator, LEA
Facilities and Construction Management

SUBJECT: Indoor Air Quality (IAQ) Assessment
FISH 708, 710, 712 and 714

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

On July 9, 2009 I conducted an assessment of FISH 708, 710, 712 and 714 at **Deerfield Beach Middle 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 754-321-1638.

cc: Sharon Airaghi, Area Superintendent
David Hall, Area Director
Jeffrey S. Moquin, Executive Director, Support Operations
Aston Henry, Supervisor, Risk Management
Sam Bays, Project Manager, Facilities and Construction Management
Lynn Cavall, 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

RK/tc
Enc.

IAQ Assessment

Location Number 0911

Deerfield Beach Middle School

Evaluation Requested

Time of Day 10:30 am

Evaluation Date July 9, 2009

Outdoor Conditions Temperature 92.6 Relative Humidity 65.8 Ambient CO2 450

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
708	69.8	72 - 78	55	30% - 60%	434	Max 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Yes		No		None	
Wall Type		No		Yes		Old staining	
Flooring		Yes		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	No	Yes	Yes	Clean and paint
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 as appropriate

Observations

Findings:

- South half of ceiling removed
- Wall material was dry at the time of assessment. Old staining on wall above ceiling over the door under the chilled water pipe.
- Visible microbial growth on wood doors and metal frames
- Dust build up on environmental surfaces
- Temperature was low at the time of the assessment

Recommendations:

Site Based Maintenance:

- Wipe down all surfaces in the room 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:

- Replace missing ceiling tiles
- Clean and paint wall above ceiling over the door under the chilled water pipe with anti-microbial paint
- Evaluate HVAC system for proper operation and repair as appropriate to increase temperature

Note: Work orders were generated to address - EQ01284 and EQ01285

IAQ Assessment

Location Number 0911

Deerfield Beach Middle School

Evaluation Requested

Time of Day 10:30 am

Evaluation Date July 9, 2009

Outdoor Conditions Temperature 92.6 Relative Humidity 65.8 Ambient CO2 450

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
710	67.5	72 - 78	56.2	30% - 60%	438	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	No	Old staining		
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 and paint
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 as appropriate

Observations

Findings:

- 20 ceiling tiles removed
- Wall material was dry at the time of assessment. Old staining on wall above ceiling over the door under the chilled water pipe.
- Visible microbial growth on wood doors and metal frames
- Dust build up on environmental surfaces
- Temperature was low at the time of the assessment

Recommendations:

Site Based Maintenance:

- Wipe down all surfaces in the room with Wexcide disinfectant solution
- Discard stuffed animals
- 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:

- Replace missing ceiling tiles
- Clean and paint wall above ceiling over the door under the chilled water pipe with anti-microbial paint
- Evaluate HVAC system for proper operation and repair as appropriate to increase temperature

Note: Work orders were generated to address - EQ01284 and EQ01285

IAQ Assessment

Location Number 0911

Deerfield Beach Middle School

Evaluation Requested

Time of Day 10:30 am

Evaluation Date July 9, 2009

Outdoor Conditions Temperature 92.6 Relative Humidity 65.8 Ambient CO2 450

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
712	67.1	72 - 78	60.6	30% - 60%	485	Max 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		Yes		Yes		70 ceiling tiles	
Ceiling Type	2 x 2 Lay In		Yes	No		Old staining	
Wall Type	Drywall		Yes	No		None	
Flooring	12 x 12 Vinyl		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 and paint
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 as appropriate

Observations

Findings:

- 70 stained and water damaged ceiling tiles with visible microbial growth
- Wall material was dry at the time of assessment. Old staining on wall above ceiling over the door under the chilled water pipe.
- Visible microbial growth on wood doors and metal frames
- Dust build up on environmental surfaces
- Temperature was low and humidity was slightly elevated at the time of the assessment
- Several stuffed animals in room with visible microbial growth

Recommendations:

Site Based Maintenance:

- Wipe down all surfaces in the room with Wexcide disinfectant solution
- Discard stuffed animals
- 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 stained and water damaged ceiling tiles and repair as appropriate. Remove and replace ceiling tiles as necessary.
- Clean and paint wall above ceiling over the door under the chilled water pipe with anti-microbial paint
- Evaluate HVAC system for proper operation and repair as appropriate to increase temperature and lower humidity level

Note: Work orders were generated to address - EQ01284 and EQ01285

IAQ Assessment

Location Number 0911

Deerfield Beach Middle School

Evaluation Requested

Time of Day 10:30 am

Evaluation Date July 9, 2009

Outdoor Conditions Temperature 92.6 Relative Humidity 65.8 Ambient CO2 450

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
714	65.7	72 - 78	62.1	30% - 60%	459	Max 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Yes		Yes		80 ceiling tiles	
Wall Type		Yes		No		Old staining	
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	Clean and paint
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 as appropriate

Observations

Findings:

- 80 stained and water damaged ceiling tiles with visible microbial growth
- Wall material was dry at the time of assessment. Old staining on wall above ceiling over the door under the chilled water pipe.
- Visible microbial growth on wood doors and metal frames
- Dust build up on environmental surfaces
- Temperature was low and humidity was slightly elevated at the time of the assessment

Recommendations:

Site Based Maintenance:

- Wipe down all surfaces in the room 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 cause of stained and water damaged ceiling tiles and repair as appropriate. Remove and replace ceiling tiles as necessary.
- Clean and paint wall above ceiling over the door under the chilled water pipe with anti-microbial paint
- Evaluate HVAC system for proper operation and repair as appropriate to increase temperature and lower humidity level

Note: Work orders were generated to address - EQ01284 and EQ01285