

Aston A. Henry, Supervisor
Risk Management Department

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August 2, 2012

Signature on File

TO: Matthew Whaley, Principal
Meadowbrook Elementary School

FROM: Richard Rosa, Project Manager
Facilities Design and Construction

SUBJECT: Indoor Air Quality (IAQ) Assessment

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

On November 4, 2011, I conducted an assessment at **Meadowbrook Elementary School**. Attached are findings and recommendations for further assessment, remediation, or corrective actions needed.

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. In an attempt to separate IAQ issues from general maintenance items, the attached assessment may contain direction for site based staff to generate a work order through COMPASS. Within two weeks a representative from the Custodial/Grounds Department will conduct a follow-up visit to ensure that all site based custodial 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 us at 754-321-1907.

cc: Directors, School Performance & Accountability
Shelley Meloni, Executive Director, Facilities Design and Construction
Mark Dorsett, Manager, Zone 1, Physical Plant Operations Division
Roy Norton, Manager, Custodial/Grounds, Physical Plant Operations Division
Aston Henry, Supervisor, Risk Management
Sonja Coley, Senior Project Manager, Facilities Design and Construction
Broward Teachers Union
Federation of Public Employees

RR/jg
Enc.

IAQ Assessment

Location Number
 Evaluation Requested
 Evaluation Date

Meadowbrook 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="105"/>	<input type="text" value="68"/>	<input type="text" value="72 - 78"/>	<input type="text" value="57.7"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="770"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text"/>
Noticeable Odor	<input type="text" value="No"/>	Visible water damage / staining?	<input type="text" value="Yes"/>	Visible microbial growth?	<input type="text" value="No"/>	Amount of material affected	<input type="text" value="2 ceiling tiles"/>
Ceiling Type	<input type="text" value="2 x 4 Lay in"/>		<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="100 sq ft"/>		
Wall Type	<input type="text" value="Concrete block/Drywall"/>		<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text"/>		
Flooring	<input type="text" value="Carpet"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="Yes"/>	<input type="text" value="Replace ceiling tiles"/>
Walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean as appropriate"/>
Flooring	<input type="text" value="x"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
HVAC Supply Grills	<input type="checkbox"/>	<input type="text" value="x"/>	<input type="checkbox"/>	<input type="text" value="Clean as appropriate"/>
HVAC Return Grills	<input type="checkbox"/>	<input type="text" value="x"/>	<input type="checkbox"/>	<input type="text" value="Clean as appropriate"/>
Ceiling at Supply Grills	<input type="text" value="x"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Surfaces in Room	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean as appropriate"/>

Observations

Findings

- FISH 105 - Elevated humidity level and low temperature
- FISH 105 - Stained ceiling tiles

Site Based Maintenance

- FISH 105 - Wipe down areas (walls, surfaces, etc.) with Wexcide and continue to monitor until HVAC is repaired.
- FISH 105 - Wipe down light fixtures to remove staining
- FISH 105 - Change stained ceiling tiles and continue to monitor until repairs are completed.
- FISH 105 - Clean HVAC supply and return grills
- FISH 105 - Clean surfaces throughout the room to remove dust
- Ensure no items are placed in front of return air grills (bookcases, file cabinets, etc.)

Physical Plant Operation

- FISH 105 - Evaluate HVAC system for proper operation and repair as appropriate to lower humidity and increase temperature. Evaluate for cause of stained ceiling tiles and repair as appropriate.

IAQ Assessment

Location Number

Meadowbrook Elementary School

Evaluation Requested

Time of Day

Evaluation Date

Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="105A"/>	<input type="text" value="67.1"/>	<input type="text" value="72 - 78"/>	<input type="text" value="59"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="763"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text"/>
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
<input type="text" value="No"/>		<input type="text" value="Yes"/>		<input type="text" value="No"/>		<input type="text"/>	
Ceiling Type	<input type="text" value="2 x 4 Lay in"/>		<input type="text" value="Yes"/>	<input type="text" value="No"/>		<input type="text"/>	
Wall Type	<input type="text" value="Concrete block/Drywall"/>		<input type="text" value="Yes"/>	<input type="text" value="No"/>		<input type="text" value="60 sq ft"/>	
Flooring	<input type="text" value="12 x 12 Vinyl"/>		<input type="text" value="No"/>	<input type="text" value="No"/>		<input type="text"/>	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Walls	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="Clean as appropriate"/>
Flooring	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
HVAC Supply Grills	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="Clean as appropriate"/>
HVAC Return Grills	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="Clean as appropriate"/>
Ceiling at Supply Grills	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Surfaces in Room	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="Clean as appropriate"/>

Observations

Findings
 - FISH 105A - Elevated humidity level and low temperature

Site Based Maintenance
 - FISH 105A - Wipe down areas (walls, surfaces, etc.) with Wexcide and continue to monitor until HVAC is repaired.
 - FISH 105A - Clean HVAC supply and return grills
 - FISH 105A - Clean surfaces throughout the room to remove dust
 - Ensure no items are placed in front of return air grills (bookcases, file cabinets, etc.)

Physical Plant Operation
 - FISH 105A - Evaluate HVAC system for proper operation and repair as appropriate to lower humidity and increase temperature.

-Note Work orders EQ02228 through EQ02231 issued 11/14/11

IAQ Assessment

Location Number
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Meadowbrook 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="105B"/>	<input type="text" value="67.9"/>	<input type="text" value="72 - 78"/>	<input type="text" value="59.3"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="762"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text"/>
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
<input type="text" value="No"/>		<input type="text" value="Yes"/>		<input type="text" value="No"/>		<input type="text" value="1 ceiling tile"/>	
Ceiling Type	<input type="text" value="2 x 4 Lay in"/>		<input type="text" value="Yes"/>	<input type="text" value="No"/>		<input type="text" value="64 sq ft"/>	
Wall Type	<input type="text" value="Concrete block/Drywall"/>		<input type="text" value="Yes"/>	<input type="text" value="Yes"/>		<input type="text"/>	
Flooring	<input type="text" value="12 x 12 Vinyl"/>		<input type="text" value="No"/>	<input type="text" value="No"/>		<input type="text"/>	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="Yes"/>	<input type="text" value="Replace ceiling tile"/>
Walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="Yes"/>	<input type="text" value="See below"/>
Flooring	<input type="text" value="x"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
HVAC Supply Grills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean as appropriate"/>
HVAC Return Grills	<input type="checkbox"/>	<input type="text" value="x"/>	<input type="checkbox"/>	<input type="text" value="Clean as appropriate"/>
Ceiling at Supply Grills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean as appropriate"/>
Surfaces in Room	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean as appropriate"/>

Observations

Findings

- FISH 105B - Elevated humidity level and low temperature
- FISH 105B - Stained ceiling tiles
- FISH 105B- Wall is water damaged and paint is peeling

Site Based Maintenance

- FISH 105B - Wipe down areas (walls, surfaces, etc.) with visible microbial growth with Wexcide and continue to monitor until HVAC is repaired.
- FISH 105B - Change stained ceiling tiles and continue to monitor until repairs are completed.
- FISH 105B - Clean HVAC supply and return grills
- FISH 105B - Clean surfaces throughout the room to remove dust
- Ensure no items are placed in front of return air grills (bookcases, file cabinets, etc.)

Physical Plant Operation

- FISH 105B Evaluate HVAC system for proper operation and repair as appropriate to lower humidity and increase temperature. Evaluate for cause of stained ceiling tiles and repair as appropriate. Repair, prep and paint concrete block wall once HVAC is repaired

-Note Work orders EQ02228 through EQ02231 issued 11/14/11

IAQ Assessment

Location Number

Meadowbrook Elementary School

Evaluation Requested

Time of Day

Evaluation Date

Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="105C"/>	<input type="text" value="66.8"/>	<input type="text" value="72 - 78"/>	<input type="text" value="60.8"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="760"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text"/>
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"/>	
Ceiling Type	<input type="text" value="2 x 4 Lay in"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>		
Wall Type	<input type="text" value="Concrete block/Drywall"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>		
Flooring	<input type="text" value="12 x 12 Vinyl"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Walls	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Flooring	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
HVAC Supply Grills	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="Clean as appropriate"/>
HVAC Return Grills	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="Clean as appropriate"/>
Ceiling at Supply Grills	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="Clean as appropriate"/>
Surfaces in Room	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="Clean as appropriate"/>

Observations

Findings

- FISH 105C - Elevated humidity level and low temperature

Site Based Maintenance

- FISH 105C - Wipe down areas (walls, surfaces, etc.) with Wexcide and continue to monitor until HVAC is repaired.

- FISH 105C - Clean HVAC supply and return grills

- FISH 105C - Clean surfaces throughout the room to remove dust

- Ensure no items are placed in front of return air grills (bookcases, file cabinets, etc.)

Physical Plant Operation

- FISH 105C Evaluate HVAC system for proper operation and repair as appropriate to lower humidity and increase temperature

-Note Work orders EQ02228 through EQ02231 issued 11/14/11

IAQ Assessment

Location Number
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 Evaluation Date

Meadowbrook 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="105D"/>	<input type="text" value="66.6"/>	<input type="text" value="72 - 78"/>	<input type="text" value="60.9"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="758"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text"/>
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"/>	
Ceiling Type	<input type="text" value="2 x 4 Lay in"/>		<input type="text" value="No"/>	<input type="text" value="No"/>		<input type="text"/>	
Wall Type	<input type="text" value="Concrete block/Drywall"/>		<input type="text" value="Yes"/>	<input type="text" value="No"/>		<input type="text" value="180 sq ft peeling paint"/>	
Flooring	<input type="text" value="12 x 12 Vinyl"/>		<input type="text" value="No"/>	<input type="text" value="No"/>		<input type="text"/>	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Walls	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="See below"/>
Flooring	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
HVAC Supply Grills	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="Clean as appropriate"/>
HVAC Return Grills	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="Clean as appropriate"/>
Ceiling at Supply Grills	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Surfaces in Room	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="Clean as appropriate"/>

Observations

Findings

- FISH 105D - Elevated humidity level and low temperature
- FISH 105D - Wall is water damaged and paint is peeling

Site Based Maintenance

- FISH 105D - Wipe down areas (walls, surfaces, etc.) with Wexcide and continue to monitor until HVAC is repaired.

Physical Plant Operation

- FISH 105D Evaluate HVAC system for proper operation and repair as appropriate to lower humidity and increase temperature. Repair, prep and paint concrete block wall once HVAC is repaired.

-Note Work orders EQ02228 through EQ02231 issued 11/14/11

IAQ Assessment

Location Number
 Evaluation Requested
 Evaluation Date

Meadowbrook 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="302"/>	<input type="text" value="70.7"/>	<input type="text" value="72 - 78"/>	<input type="text" value="62.3"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="505"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text"/>
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"/>		
Wall Type	<input type="text" value="Tack Board/Drywall"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>		
Flooring	<input type="text" value="12 x 12 Vinyl"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Walls	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Flooring	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
HVAC Supply Grills	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="Clean as appropriate"/>
HVAC Return Grills	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Ceiling at Supply Grills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Surfaces in Room	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="Clean as appropriate"/>

Observations

Findings

- FISH 302 - Elevated humidity level and low temperature
- FISH 302 - Cabinet doors are water damaged

Site Based Maintenance

- FISH 302 - Clean minor dust and cobwebs on elevated surfaces and low corners
- FISH 302 - Clean HVAC supply grills
- Ensure no items are placed in front of return air grills (bookcases, file cabinets, etc.)

Physical Plant Operation

- FISH 302 Evaluate HVAC system for proper operation and repair as appropriate to lower humidity and increase temperature. Evaluate cause of water damaged cabinet doors and repair as appropriate. Repair/replace doors.

-Note Work orders EQ02228 through EQ02231 issued 11/14/11