

RISK MANAGEMENT...

managing risk with responsibility

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July 30, 2007

Signature on File

TO: Ms. Camille LaChance, Principal
North Side Elementary School

FROM: Edward See, Project Manager
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment
FISH 130, 142, 250, 503A, 504 and 505

For Custodial Supervisor Use Only	
<input type="checkbox"/>	Custodial Issues Addressed
<input type="checkbox"/>	Custodial Issues Not Addressed
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On July 25, 2007 I conducted an assessment of FISH 130, 142, 250, 503A, 504 and 505 at **North Side 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. Verda Farrow, Area Superintendent
Joel Herbst, Area Director
Jeffrey S. Moquin, Director, Risk Management
Frank Alfieri, 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

North Side 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="130"/>	<input type="text" value="72.8"/>	<input type="text" value="72 - 78"/>	<input type="text" value="59.2"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="543"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text" value="1"/>
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="Yes"/>		<input type="text" value="Yes"/>		<input type="text" value="1 square foot"/>
Flooring	<input type="text" value="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="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 staining and microbial growth on wall (@1 square foot) at north door

Recommendations:

Site Based Maintenance:
 - Wipe down north wall at door 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

Note - PPO is currently having a vendor clean and camera the drains at the school

IAQ Assessment

Location Number
 Evaluation Requested
 Evaluation Date

North Side 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="142"/>	<input type="text" value="69.8"/>	<input type="text" value="72 - 78"/>	<input type="text" value="66.4"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="531"/>	<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="1 x 1 Lay In"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<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="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="1 square foot"/>	
Flooring	<input type="text" value="Vinyl"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<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="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:

- Visible staining and microbial growth on wall (@1 square foot) at South door
- HFSP advised that standing water in classroom is being caused by a water back up from outside catch basin. Water overflowed into hallway and was cleaned with extractors. Water was also cleaned from FISH 303.
- Dust and debris on HVAC return grills
- Temperature was low and humidity level was elevated

Recommendations:

Site Based Maintenance:

- Wipe down north wall at door with Wexcide disinfectant solution
- Clean HVAC return grills with Wexcide disinfectant solution
- Adjust the thermostat to increase the temperature. Continue to monitor condition and initiate a work order for Physical Plant Operations to evaluate the HVAC system if temperature does not improve.
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

Note - PPO is currently having a vendor clean and camera the drains at the school

IAQ Assessment

Location Number 0041
 Evaluation Requested July 24, 2007
 Evaluation Date July 25, 2007

North Side Elementary School

Time of Day

Outdoor Conditions Temperature 89.5 Relative Humidity 66.3 Ambient CO2 423

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
250		72 - 78		30% - 60%		Max 700 > Ambient	
Noticeable Odor 		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type							
Wall Type							
Flooring							

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

Observations

Findings: Outside of Dining Area
 - No issues with the interior of the building
 - HFSP advised that rain flows into the East door due to the handicap ramp not being pitched away from the cafeteria door. There is a ramp right outside the East cafeteria door that goes up and sideways and when it rains the water ponds and flows into the cafeteria.

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

Facilities and Construction Management and Physical Plant Operations:
 - Evaluate ramp outside of cafeteria for possible deflection of water

Note - PPO is currently having a vendor clean and camera the drains at the school

IAQ Assessment

Location Number 0041
 Evaluation Requested July 24, 2007
 Evaluation Date July 25, 2007

North Side Elementary School

Time of Day

Outdoor Conditions Temperature 89.5 Relative Humidity 66.3 Ambient CO2 423

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
503A	81.6	72 - 78	72.5	30% - 60%	652	Max 700 > Ambient	1
Noticeable Odor		Yes	Visible water damage / staining?		Visible microbial growth?		Amount of material affected
Ceiling Type	2 x 4 Lay In		No	No	None		
Wall Type	Drywall		No	Yes	2 square feet		
Flooring	Vinyl		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	No	Yes	Yes	Repair/replace as necessary
Flooring	No	Yes	Yes	Clean and sanitize
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:

- Room is being used as a computer room
- Odor of urine appears to be coming from the restroom next door
- Visible microbial growth on West and North walls
- Temperature and humidity were elevated
- Dust build up on floor
- Dust and debris on HVAC supply and return grills

Recommendations:

Site Based Maintenance:

- Clean and sanitize floor
- Clean HVAC supply and 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 cause of microbial growth and elevated moisture content in West and North walls and repair as appropriate.
- Repair/replace wall material as necessary.
- Evaluate cause of urine odor and repair as appropriate
- Evaluate HVAC for proper operation and repair as appropriate to lower temperature and humidity

Note - PPO is currently having a vendor clean and camera the drains at the school

IAQ Assessment

North Side Elementary School

Location Number 0041
 Evaluation Requested July 24, 2007
 Evaluation Date July 25, 2007

Time of Day

Outdoor Conditions Temperature 89.5 Relative Humidity 66.3 Ambient CO2 423

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
504	71.6	72 - 78	56.6	30% - 60%	816	Max 700 > Ambient	1
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		No		No		None	
Wall Type		No		Yes		6 square feet	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	No	Yes	Yes	Repair/replace as necessary
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	Yes	No	No	

Observations

Findings:

- Visible microbial growth on East wall (with bulletin board) above baseboard and a refrigerator, North wall above baseboard and West wall below A/C unit. Standing water below A/C unit on West wall. Protimeter readings from 50-90% in walls.
- Appears to be negative pressure in the room - light wind draft coming from wall outlet
- Temperature was low

Recommendations:

Site Based Maintenance:

- Adjust the thermostat to increase the temperature. Continue to monitor condition and initiate a work order for Physical Plant Operations to evaluate the HVAC system if temperature does not improve.
- 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 microbial growth and elevated moisture content in East, North and West walls and repair as appropriate. Repair/replace wall material as necessary.
- West wall (exterior) has patched hole - verify for source of water intrusion below A/C unit

Note - PPO is currently having a vendor clean and camera the drains at the school

IAQ Assessment

Location Number
 Evaluation Requested
 Evaluation Date

North Side 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="505"/>	<input type="text" value="74.5"/>	<input type="text" value="72 - 78"/>	<input type="text" value="57.6"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="973"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text" value="1"/>
Noticeable Odor	<input type="text" value="No"/>		Visible water damage / staining?		Visible microbial growth?		Amount of material affected
Ceiling Type	<input type="text" value="Plaster"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>
Wall Type	<input type="text" value="Drywall"/>		<input type="text" value="Yes"/>		<input type="text" value="Yes"/>		<input type="text" value="20 square feet"/>
Flooring	<input type="text" value="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="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Repair/replace as necessary"/>
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"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="N/A"/>
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: (hall area outside of restrooms - 505A and B)
 - Visible microbial growth and staining on all walls of the room at and above the baseboard. Elevated moisture content in all walls.

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 microbial growth and elevated moisture content in all walls and repair as appropriate. Repair/replace wall material as necessary.

Note - PPO is currently having a vendor clean and camera the drains at the school