

RISK MANAGEMENT...

managing risk with responsibility

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October 1, 2009

Signature on File

TO: Dr. David Basile, Principal
South Plantation High School

FROM: Edward See, Project Manager
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment
FISH 280, 282, 283, 286 and 294

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

On September 30, 2009 I conducted an assessment of FISH 280, 282, 283, 286 and 294 at **South Plantation High 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. 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 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 754-321-1900.

cc: Dr. Leontine Butler, Area Superintendent
Michaelle Pope, Area Director
Jeffrey S. Moquin, Executive Director, Support Operations
Aston Henry, Supervisor, Risk Management
Wayne Thrasher, Project Manager, Facilities and Construction Management
Ralph Eckhardt, 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

ES/tc
Enc.

IAQ Assessment

Location Number 2351

South Plantation High School

Evaluation Requested

Time of Day 8:15 am

Evaluation Date September 30, 2009

Outdoor Conditions Temperature 79.5 Relative Humidity 81.4 Ambient CO2 416

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
280		72 - 78		30% - 60%		Max 700 > Ambient	
Noticeable Odor	No		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	2 x 4 Lay In		Yes	No	2 ceiling tiles		
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	No	Yes	Yes	Remove and replace ceiling tiles
Walls	Yes	No	No	
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:

- 2 stained ceiling tiles - active leak

Recommendations:

Site Based Maintenance:

- Remove and replace stained ceiling tiles. Continue to change out tiles as necessary until roofing project is completed.
- 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:

- Expedite roofing project and evaluate and expedite needed repairs due to water damage (i.e. bubbling paint, wall damage, etc.)

Note: Work order EQ01317 has been generated by Physical Plant Operations to evaluate HVAC system and install data loggers to monitor environmental parameters. Work orders J397633, J394778 and J395378 are currently in progress by Physical Plant Operations to address some carpentry/hardware issues.

Facilities and Construction Management has advised that roofing project is scheduled to go to the Board on October 6th for contractor approval

IAQ Assessment

Location Number 2351

South Plantation High School

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Time of Day 8:15 am

Evaluation Date September 30, 2009

Outdoor Conditions Temperature 79.5 Relative Humidity 81.4 Ambient CO2 416

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
282		72 - 78		30% - 60%		Max 700 > Ambient	
Noticeable Odor	No	Visible water damage / staining?	Yes	Visible microbial growth?	No	Amount of material affected	2 ceiling tiles
Ceiling Type	2 x 4 Lay In		Yes	No	2 ceiling tiles		
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	No	Yes	Yes	Remove and replace ceiling tiles
Walls	Yes	No	No	
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: (hallway)

- 5 stained ceiling tiles - active leak
- Visible condensation on floors and walls. Prevalent on Monday morning. Signs of water intrusion and elevated humidity from roof leaks.

Recommendations:

Site Based Maintenance:

- Remove and replace stained ceiling tiles. Continue to change out tiles as necessary until roofing project is completed.
- 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:

- Expedite roofing project and evaluate and expedite needed repairs due to water damage (i.e. bubbling paint, wall damage, etc.)

Note: Work order EQ01317 has been generated by Physical Plant Operations to evaluate HVAC system and install data loggers to monitor environmental parameters. Work orders J397633, J394778 and J395378 are currently in progress by Physical Plant Operations to address some carpentry/hardware issues.

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Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
283	64	72 - 78	60.5	30% - 60%	572	Max 700 > Ambient	4
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		Yes		No		1 ceiling tile	
Ceiling Type	2 x 4 Lay In		Yes	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	No	Yes	Yes	Remove and replace ceiling tiles
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	No	Yes	Yes	Clean with Wexcide disinfectant
HVAC Return Grills	No	Yes	Yes	Clean with Wexcide disinfectant
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings: (band room)

- Temperature was low and humidity level was slightly elevated at the time of the assessment and was adjusted at the time of the assessment.
- Dust and debris on HVAC supply and return grills
- 1 stained ceiling tile and one missing ceiling tile - active leak

Recommendations:

Site Based Maintenance:

- Ensure that staff does not adjust thermostats. Temperature should be maintained at 72-78 degrees.
- Clean HVAC supply and return grills with Wexcide disinfectant solution
- Remove and replace stained ceiling tile and replace missing tile. Continue to change out tiles as necessary until roofing project is completed.
- 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:

- Expedite roofing project and evaluate and expedite needed repairs due to water damage (i.e. bubbling paint, wall damage, etc.)

Note: Work order EQ01317 has been generated by Physical Plant Operations to evaluate HVAC system and install data loggers to monitor environmental parameters. Work orders J397633, J394778 and J395378 are currently in progress by Physical Plant Operations to address some carpentry/hardware issues.

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Outdoor Conditions Temperature 79.5 Relative Humidity 81.4 Ambient CO2 416

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
286	69.7	72 - 78	57.6	30% - 60%	903	Max 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		Yes		No		Various	
Ceiling Type	2 x 4 Lay In		Yes	No		Various	
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	No	Yes	Yes	Remove and replace ceiling tiles
Walls	Yes	No	No	
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: (uniform room)

- Temperature was low at the time of the assessment
- Dust build up on environmental surfaces
- Multiple stained ceiling tiles - active leak
- Old dehumidifier in room

Recommendations:

Site Based Maintenance:

- Ensure that staff does not adjust thermostats. Temperature should be maintained at 72-78 degrees.
- Thoroughly clean environmental surfaces
- Remove and replace stained ceiling tiles. Continue to change out tiles as necessary until roofing project is completed.
- Ensure that dehumidifier is maintained by site based staff
- 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 increase temperature.

Facilities and Construction Management:

- Expedite roofing project and evaluate and expedite needed repairs due to water damage (i.e. bubbling paint, wall damage, etc.)

Note: Work order EQ01317 has been generated by Physical Plant Operations to evaluate HVAC system and install data loggers to monitor environmental parameters. Work orders J397633, J394778 and J395378 are currently in progress by Physical Plant Operations to address some carpentry/hardware issues.

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Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
294	69.5	72 - 78	67.8	30% - 60%	485	Max 700 > Ambient	3
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		Yes		No		Various	
Ceiling Type	Rafter/Drywall		Yes	No		Various	
Wall Type	Drywall/Plaster		Yes	No		Various	
Flooring	Wood/Tile		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	No	Yes	Yes	Clean with Wexcide disinfectant
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings:

- Temperature was low and humidity level was elevated at the time of the assessment
- Water stains and bubbling paint on concrete columns behind stage and water stains on stage screen from roof leaks
- Dust build up on rafters above stage area
- Gap at bottom of East door
- Active roof leaks
- Dust and debris on HVAC supply grills

Recommendations:

Site Based Maintenance:

- Ensure that staff does not adjust thermostats. Temperature should be maintained at 72-78 degrees.
- Clean HVAC supply grills with Wexcide disinfectant solution
- Clean rafters above stage area
- 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 increase temperature and lower humidity. Install data loggers in FISH 282, 283 and 294.
- Evaluate and repair gap at bottom of East door to prevent water intrusion

Facilities and Construction Management:

- Expedite roofing project and evaluate and expedite needed repairs due to water damage (i.e. bubbling paint, wall damage, etc.)

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