

RISK MANAGEMENT...

managing risk with responsibility

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August 15, 2006

Signature on File

TO: Ms. Robin David, Principal
Royal Palm Elementary School

FROM: Kenneth I. Partee, Project Manager, Occupational Health and Environmental Control
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment
FISH 601, 602, 603, 604 and 611

On August 10, 2006 the IAQ Assessment Team conducted an assessment of FISH 601, 602, 603, 604 and 611 at **Royal Palm 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.

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. Harry LaCava, Area Superintendent
Fran Bolden, Area Director
Jeffrey S. Moquin, Director, Risk Management
Israel Rodriguez-Soto, Project Manager, Facilities and Construction Management
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KP/tc
Enc.

IAQ Assessment

Location Number 1851
 Evaluation Requested August 10, 2006
 Evaluation Date August 10, 2006

Royal Palm Elementary School

Time of Day 2:25 pm

Outdoor Conditions Temperature 97.1 Relative Humidity 58 Ambient CO2 478

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
601	69.5	72 - 78	76.8	30% - 60%	577	Max 700 > Ambient	2
Noticeable Odor	Yes		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	Plaster		No	No	None		
Flooring	Tile		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	No	Yes	Yes	Clean and sanitize
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:

- 2 stained ceiling tiles above whiteboard
- Dust and debris on floor (insect and lizard parts)
- Visible microbial growth in 1 desk drawer and remainder of drawers and environmental surfaces have residue
- Non-approved SBBC chemicals in room (Fantastik, bleach, vinegar, cornstarch)
- Temperature was low and humidity level was elevated

Recommendations:

Site Based Maintenance:

- Wipe down desks, drawers and all environmental surfaces with Wexcide disinfectant solution
- Clean and sanitize floor
- Remove non-approved chemicals from room
- 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 for leak and repair as appropriate. Remove and replace stained ceiling tiles as appropriate.
- Evaluate and repair HVAC system to increase temperature and lower humidity level

IAQ Assessment

Royal Palm Elementary School

Location Number 1851
 Evaluation Requested August 10, 2006
 Evaluation Date August 10, 2006

Time of Day 2:35 pm

Outdoor Conditions Temperature 97.1 Relative Humidity 58 Ambient CO2 478

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
602	69.1	72 - 78	74.5	30% - 60%	581	Max 700 > Ambient	3
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	Plaster		No	No	None		
Flooring	Tile		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:

- One stained ceiling tile above left window and one broken ceiling tile to the left of the right window
- Residue on all environmental surfaces
- Temperature was low and humidity level was elevated

Recommendations:

Site Based Maintenance:

- Remove and replace stained and damaged ceiling tiles
- Wipe down desks, drawers, walls and all environmental surfaces 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 and repair HVAC system to increase temperature and lower humidity level

IAQ Assessment

Royal Palm Elementary School

Location Number 1851
 Evaluation Requested August 10, 2006
 Evaluation Date August 10, 2006

Time of Day 2:52 pm

Outdoor Conditions Temperature 97.1 Relative Humidity 58 Ambient CO2 478

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
603	69.4	72 - 78	71.2	30% - 60%	583	Max 700 > Ambient	3
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	Plaster		No	No	None		
Flooring	Tile		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	No	Yes	Yes	Bleach odor and residue on walls
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:

- Residue on all environmental surfaces and walls
- Non-approved SBBC chemicals in room (bleach cleaner)
- Temperature was low and humidity level was elevated

Recommendations:

Site Based Maintenance:

- Wipe down desks, drawers, walls and all environmental surfaces with Wexcide disinfectant solution
- Remove non-approved chemicals from room
- 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 and repair HVAC system to increase temperature and lower humidity level

IAQ Assessment

Location Number 1851
 Evaluation Requested August 10, 2006
 Evaluation Date August 10, 2006

Royal Palm Elementary School

Time of Day 2:52 pm

Outdoor Conditions Temperature 97.1 Relative Humidity 58 Ambient CO2 478

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
604	69.4	72 - 78	72.1	30% - 60%	583	Max 700 > Ambient	3
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		No		No		None	
Wall Type		No		No		None	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	No	Yes	Yes	Residue on walls
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:
 - Residue on all environmental surfaces and walls
 - Temperature was low and humidity level was elevated

Recommendations:

Site Based Maintenance:
 - Wipe down desks, drawers, walls and all environmental surfaces 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 and repair HVAC system to increase temperature and lower humidity level

IAQ Assessment

Location Number 1851
 Evaluation Requested August 10, 2006
 Evaluation Date August 10, 2006

Royal Palm Elementary School

Time of Day 3:12 pm

Outdoor Conditions Temperature 97.1 Relative Humidity 58 Ambient CO2 478

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
611	71.2	72 - 78	74	30% - 60%	575	Max 700 > Ambient	3
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		Yes		Yes		10 ceiling tiles	
Ceiling Type		Wall Type		Flooring			
2 x 4 Lay In		Plaster		Tile			
Yes		Yes		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 as appropriate (at ceiling)
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	No	Yes	Yes	Remove and replace ceiling tile
Surfaces in Room	No	Yes	Yes	Clean as appropriate

Observations

Findings:

- 10 ceiling tiles with visible microbial growth and staining
- Visible microbial growth and staining on wall at ceiling
- Residue in light fixtures
- Stained ceiling tile at HVAC supply grill
- Residue on all environmental surfaces
- Temperature was low and humidity level was elevated

Recommendations:

Site Based Maintenance:

- Remove and replace stained and damaged ceiling tiles
- Remove and clean light fixtures with Wexcide disinfectant solution
- Wipe down desks, drawers, walls and all environmental surfaces 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:

- Remove and replace stained ceiling tile at HVAC supply grill
- Assist custodial staff with replacement of ceiling tiles throughout the room with visible microbial growth and staining
- Evaluate and repair HVAC system to increase temperature and lower humidity level