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September 20, 2006

Signature on File

TO: Dr. Valoria Latson, Principal
Castle Hill Elementary School

FROM: Robert J. Krickovich, Coordinator, LEA
Facilities and Construction Management, Environmental Division

SUBJECT: Indoor Air Quality (IAQ) Assessment
FISH 113, 117, 117A and 117B

On September 14, 2006 I conducted an assessment of FISH 113, 117, 117A and 117B at **Castle Hill 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 754-321-1638.

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
Gary Itzkowitz, Broward Teachers Union
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 1461
 Evaluation Requested September 11, 2006
 Evaluation Date September 14, 2006

Castle Hill Elementary School

Time of Day 1:00 pm

Outdoor Conditions Temperature 93.2 Relative Humidity 50.4 Ambient CO2 493

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
113	70.8	72 - 78	63.2	30% - 60%	1058	Max 700 > Ambient	22
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	Tackable		No	No	None		
Flooring	12 x 12 Vinyl		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	No	Yes	Yes	Clean with Wexcide disinfectant
Ceiling at Supply Grills	No	Yes	Yes	Clean as appropriate
Surfaces in Room	No	Yes	Yes	Clean as appropriate

Observations

Findings:

- Teacher had tissue scotch taped over her nose
- Heavy dust and debris on HVAC supply and return grills and on ceiling at supply grills
- Dust build up on bottom of plastic chairs
- Temperature was low and humidity level was elevated
- Dust build up on environmental surfaces

Recommendations:

Site Based Maintenance:

- Clean HVAC supply and return grills with Wexcide disinfectant solution and clean ceiling at supply grills
- Clean bottom of plastic chairs with Wexcide disinfectant solution
- Thoroughly clean environmental surfaces
- 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
- Provide assistance to school based staff to clean chairs and environmental surfaces

IAQ Assessment

Location Number 1461
 Evaluation Requested September 11, 2006
 Evaluation Date September 14, 2006

Castle Hill Elementary School

Time of Day 1:00 pm

Outdoor Conditions Temperature 93.2 Relative Humidity 50.4 Ambient CO2 493

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
117	67.6	72 - 78	72.2	30% - 60%	890	Max 700 > Ambient	24
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Yes				No		None	
Ceiling Type	2 x 4 Lay In		No	No	None		
Wall Type	Drywall		No	No	None		
Flooring	Carpet		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	No	Yes	Yes	Clean as appropriate
Surfaces in Room	No	Yes	Yes	Clean as appropriate

Observations

Findings:

- Heavy dust and debris on HVAC supply grills and on ceiling at supply grills
- Minor staining on carpet
- Visible microbial growth on 38 books
- Dust build up on environmental surfaces
- Air is blowing out of the return grill in the Southwest corner of the room
- Temperature was low and humidity level was elevated

Recommendations:

Site Based Maintenance:

- Clean HVAC supply grills with Wexcide disinfectant solution and clean ceiling at supply grills
- Discard books with visible microbial growth (38)
- Thoroughly clean environmental surfaces
- 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
- Evaluate cause of air blowing out of the return grill in the Southwest corner of the room and repair as appropriate

IAQ Assessment

Location Number 1461
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Castle Hill Elementary School

Time of Day 1:00 pm

Outdoor Conditions Temperature 93.2 Relative Humidity 50.4 Ambient CO2 493

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
117A	67.8	72 - 78	66.6	30% - 60%	795	Max 700 > Ambient	1
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	Drywall		No	No	None		
Flooring	12 x 12 Vinyl		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	No	Yes	Yes	Clean as appropriate
Surfaces in Room	No	Yes	Yes	Clean as appropriate

Observations

Findings: (AV Storage Room)

- Heavy dust and debris on HVAC supply grills and on ceiling at supply grills
- Visible microbial growth on 10 vinyl laptop cases
- Dust build up on environmental surface
- Temperature was low and humidity level was elevated

Recommendations:

Site Based Maintenance:

- Clean HVAC supply grills with Wexcide disinfectant solution and clean ceiling at supply grills
- Discard vinyl laptop cases with visible microbial growth (10)
- Thoroughly clean environmental surfaces
- 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
 Evaluation Requested
 Evaluation Date

Castle Hill 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="117B"/>	<input type="text" value="66.5"/>	<input type="text" value="72 - 78"/>	<input type="text" value="66.8"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="791"/>	<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="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="Drywall"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		
Flooring	<input type="text" value="12 x 12 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="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
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="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean with Wexcide disinfectant"/>
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"/>
Ceiling at Supply Grills	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean as appropriate"/>
Surfaces in Room	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>

Observations

Findings: (Production Room)

- Heavy dust and debris on HVAC supply and return grills and on ceiling at supply grills
- Temperature was low and humidity level was elevated

Recommendations:

Site Based Maintenance:

- Clean HVAC supply and return grills with Wexcide disinfectant solution and clean ceiling at supply grills
- 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