

RISK MANAGEMENT...

managing risk with responsibility

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Risk Management Department

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December 18, 2007

Signature on File

TO: Mr. Raymond LeFevre, Principal
Westchester Elementary School

FROM: Edward See, Project Manager
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment
**FISH 107, 108A-C, 113A, 130, 131, 132, 133,
136, 140, 142, 850, 853 and 860**

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

On November 28, 2007 Aston Henry and I conducted an assessment of FISH 107, 108A-C, 113A, 130, 131, 132, 133, 136, 140, 142, 850, 853 and 860 at **Westchester 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. Joanne Harrison, Area Superintendent
Sharon Airaghi, Area Director
Jeffrey S. Moquin, Director, Risk Management
Denise Cone, Project Manager, Facilities and Construction Management
Gary Itzkowitz, 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

Westchester Elementary School

Location Number 2681
 Evaluation Requested November 14, 2007
 Evaluation Date November 28, 2007

Time of Day 11:00 am

Outdoor Conditions Temperature 84.5 Relative Humidity 58.8 Ambient CO2 480

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
107	72.3	72 - 78	53.4	30% - 60%	1317	Max 700 > Ambient	2
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/Tackable		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	Yes	No	No	
HVAC Return Grills				N/A
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	No	Yes	Yes	Clean as appropriate

Observations

Findings:

- False ceiling plenum was clean and dry
- Dust build up on environmental surfaces throughout the room
- CO2 level was slightly elevated at the time of the assessment
- FISH 104 (Mechanical Room) - A/C filters not taped together
- FISH 110 (Custodial Closet) - Water damaged wall and baseboard near slope sink and missing baseboard

Recommendations:

Site Based Maintenance:

- Thoroughly clean all environmental surfaces throughout the room
- Ensure that A/C filters are taped together to prevent bypass
- Generate a work order through COMPASS to repair wall and baseboard in FISH 110
- 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 system for proper operation and repair as appropriate to lower CO2 level

IAQ Assessment

Westchester Elementary School

Location Number 2681
 Evaluation Requested November 14, 2007
 Evaluation Date November 28, 2007

Time of Day 11:00 am

Outdoor Conditions Temperature 84.5 Relative Humidity 58.8 Ambient CO2 480

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
108A-C	74.7	72 - 78	49.3	30% - 60%	1220	Max 700 > Ambient	5
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	Tackable		No	No	None		
Flooring	Carpet		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace stained tiles
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
HVAC Return Grills				N/A
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	No	Yes	Yes	Clean as appropriate

Observations

Findings:

- 3 rooms with moveable dividers and no A/C return
- 2 stained ceiling tiles in rooms and 1 stained ceiling tile in hallway (011)
- Dust build up on wall dividers and on bookshelves
- CO2 level was slightly elevated at the time of the assessment

Recommendations:

Site Based Maintenance:

- Remove and replace stained ceiling tiles
- HFSP initiated a work order through COMPASS to investigate for active leak in hallway (011)
- Thoroughly clean wall dividers and bookshelves
- 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 system for proper operation and repair as appropriate to lower CO2 level

IAQ Assessment

Location Number 2681
 Evaluation Requested November 14, 2007
 Evaluation Date November 28, 2007

Westchester Elementary School

Time of Day 11:00 am

Outdoor Conditions Temperature 84.5 Relative Humidity 58.8 Ambient CO2 480

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
113A	72.2	72 - 78	57.7	30% - 60%	1549	Max 700 > Ambient	19
Noticeable Odor	No		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	2 x 4 Lay In		No	No	None		
Wall Type	Cork/Wallpaper		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	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:

- Occupant complained of past odors. Plumbers detected sewer gas from dry sinks. Former Science classroom.
- Dust build up on environmental surfaces throughout the room
- CO2 level was slightly elevated at the time of the assessment
- FISH 149 (Mechanical Room) - A/C filters not taped together in AHU 1, 3 and 4

Recommendations:

Site Based Maintenance:

- Ensure that water is run down sinks once a week to prevent sewer gas odor. Contact Physical Plant Operations to have drains capped if sinks are not going to be utilized.
- Thoroughly clean all environmental surfaces throughout the room
- Ensure that A/C filters are taped together to prevent bypass
- 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 system for proper operation and repair as appropriate to lower CO2 level

IAQ Assessment

Location Number
 Evaluation Requested
 Evaluation Date

Westchester 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="69"/>	<input type="text" value="72 - 78"/>	<input type="text" value="57.6"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="1384"/>	<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/Tackable"/>		<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="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:
 - Temperature was low and CO2 level was slightly elevated at the time of the assessment
 - Basket of stuffed animals in room

Recommendations:

Site Based Maintenance:
 - Stuffed animals are a source of dust and allergens and need to be cleaned frequently
 - 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 system for proper operation and repair as appropriate to increase temperature and lower CO2 level

IAQ Assessment

Location Number
 Evaluation Requested
 Evaluation Date

Westchester 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="131"/>	<input type="text" value="70.2"/>	<input type="text" value="72 - 78"/>	<input type="text" value="56.2"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="1436"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text" value="18"/>
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/Tackable"/>		<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="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:
 - Temperature was low and CO2 level was slightly elevated at the time of the assessment

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 HVAC system for proper operation and repair as appropriate to increase temperature and lower CO2 level

IAQ Assessment

Westchester Elementary School

Location Number 2681
 Evaluation Requested November 14, 2007
 Evaluation Date November 28, 2007

Time of Day 11:00 am

Outdoor Conditions Temperature 84.5 Relative Humidity 58.8 Ambient CO2 480

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
132	68.2	72 - 78	58	30% - 60%	1442	Max 700 > Ambient	17
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		at main door	
Wall Type	Drywall/Tackable		Yes	No		None	
Flooring	12 x 12 Vinyl		No	No			

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace stained tile
Walls	No	Yes	Yes	Repair/replace as appropriate
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:

- Temperature was low and CO2 level was slightly elevated at the time of the assessment
- Stain on wall near main door and wallpaper/wall is peeling
- 1 stained ceiling tile

Recommendations:

Site Based Maintenance:

- Remove and replace stained ceiling tile
- 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 system for proper operation and repair as appropriate to increase temperature and lower CO2 level
- Evaluate cause of stain on wall and peeling wallpaper and repair as appropriate. Repair/replace wall material as appropriate.

IAQ Assessment

Location Number
 Evaluation Requested
 Evaluation Date

Westchester 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="133"/>	<input type="text" value="69.4"/>	<input type="text" value="72 - 78"/>	<input type="text" value="56.6"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="1414"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text" value="19"/>
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/Tackable"/>		<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="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:
 - Temperature was low and CO2 level was slightly elevated at the time of the assessment

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 HVAC system for proper operation and repair as appropriate to increase temperature and lower CO2 level

IAQ Assessment

Westchester Elementary School

Location Number 2681
 Evaluation Requested November 14, 2007
 Evaluation Date November 28, 2007

Time of Day 11:00 am

Outdoor Conditions Temperature 84.5 Relative Humidity 58.8 Ambient CO2 480

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
136	70.9	72 - 78	56.3	30% - 60%	1419	Max 700 > Ambient	19
Noticeable Odor	No		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	2 x 4 Lay In		Yes	No	1 ceiling tile		
Wall Type	Cork/Wallpaper		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 stained tile
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:
 - Temperature was low and CO2 level was slightly elevated at the time of the assessment
 - 1 stained ceiling tile near clock

Recommendations:

Site Based Maintenance:
 - Remove and replace stained ceiling tile
 - 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 system for proper operation and repair as appropriate to increase temperature and lower CO2 level

IAQ Assessment

Location Number 2681
 Evaluation Requested November 14, 2007
 Evaluation Date November 28, 2007

Westchester Elementary School

Time of Day 11:00 am

Outdoor Conditions Temperature 84.5 Relative Humidity 58.8 Ambient CO2 480

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
140	72.6	72 - 78	57.4	30% - 60%	1351	Max 700 > Ambient	19
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Yes		No		3 ceiling tiles	
Wall Type		No		No		None	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace stained 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:

- CO2 level was slightly elevated at the time of the assessment
- Basket of stuffed animals in room
- Dust build up on environmental surfaces throughout the room
- 3 stained ceiling tiles

Recommendations:

Site Based Maintenance:

- Stuffed animals are a source of dust and allergens and need to be cleaned frequently
- Thoroughly clean all environmental surfaces throughout the room
- Remove and replace ceiling tiles
- 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 system for proper operation and repair as appropriate to lower CO2 level

IAQ Assessment

Location Number
 Evaluation Requested
 Evaluation Date

Westchester 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="72.5"/>	<input type="text" value="72 - 78"/>	<input type="text" value="58.4"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="1262"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text" value="46"/>
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="Tackable"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		
Flooring	<input type="text" value="Tile"/>		<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="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:

- No visible signs of microbial growth or water intrusion
- 1 ceiling tile missing
- CO2 level was slightly elevated at the time of the assessment

Recommendations:

Site Based Maintenance:

- Replace missing ceiling tile
- 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 system for proper operation and repair as appropriate to lower CO2 level

IAQ Assessment

Westchester Elementary School

Location Number 2681
 Evaluation Requested November 14, 2007
 Evaluation Date November 28, 2007

Time of Day 12:25 pm

Outdoor Conditions Temperature 84.5 Relative Humidity 58.8 Ambient CO2 480

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
850	69.5	72 - 78	62	30% - 60%	841	Max 700 > Ambient	12
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Yes		No		1 ceiling tile	
Wall Type		Yes		Yes		South and East wall	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace stained tiles
Walls	No	Yes	Yes	Repair/replace as appropriate
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
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:

- 1 stained ceiling tile
- Visible signs of water intrusion and microbial growth on East and South walls (lower portion). Exterior walls show signs of peeling paint and water intrusion.
- Drywall within false ceiling plenum shows signs of water damage
- Temperature was low and humidity was elevated at the time of the assessment. Thermostat was set to 75 degrees.
- Dust and debris on HVAC return grills

Recommendations:

Site Based Maintenance:

- Clean HVAC 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 stained ceiling tile and water damaged South and East walls and repair as appropriate. Evaluate exterior of portable (caulk, etc.) and repair as appropriate. Repair/replace drywall and ceiling tiles as necessary.
- Evaluate HVAC system for proper operation and repair as appropriate to increase temperature and lower humidity

IAQ Assessment

Location Number 2681
 Evaluation Requested November 14, 2007
 Evaluation Date November 28, 2007

Westchester Elementary School

Time of Day 12:25 pm

Outdoor Conditions Temperature 84.5 Relative Humidity 58.8 Ambient CO2 480

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
853	74.1	72 - 78	71.4	30% - 60%	1216	Max 700 > Ambient	29
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Yes		Yes		1 ceiling tile	
Wall Type		No		No		None	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace stained tile
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
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:

- 1 stained ceiling tile
- Drywall within false ceiling plenum shows signs of water damage
- Temperature was low, humidity was elevated and CO2 level was slightly elevated at the time of the assessment
- Dust and debris on HVAC return grills

Recommendations:

Site Based Maintenance:

- Clean HVAC 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 stained ceiling tiles and water damaged drywall within false ceiling plenum and repair as appropriate. Evaluate insulation within false ceiling plenum and replace as necessary. Repair/replace drywall and ceiling tiles as necessary.
- Evaluate HVAC system for proper operation and repair as appropriate to increase temperature, lower humidity and lower CO2 level

IAQ Assessment

Location Number 2681
 Evaluation Requested November 14, 2007
 Evaluation Date November 28, 2007

Westchester Elementary School

Time of Day 12:25 pm

Outdoor Conditions Temperature 84.5 Relative Humidity 58.8 Ambient CO2 480

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
860	71.2	72 - 78	74.5	30% - 60%	1575	Max 700 > Ambient	23
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Yes		No		9 ceiling tiles	
Wall Type		No		No		None	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace stained tiles
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
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:

- 9 stained ceiling tiles
- Drywall within false ceiling plenum shows signs of water damage
- Temperature was low, humidity was elevated and CO2 level was slightly elevated at the time of the assessment
- Dust and debris on HVAC return grills

Recommendations:

Site Based Maintenance:

- Clean HVAC 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 stained ceiling tiles and water damaged drywall within false ceiling plenum and repair as appropriate. Evaluate insulation within false ceiling plenum and replace as necessary. Repair/replace drywall and ceiling tiles as necessary.
- Evaluate HVAC system for proper operation and repair as appropriate to increase temperature, lower humidity and lower CO2 level