

Aston A. Henry, Director
Risk Management Department

Telephone: 754 321-1900
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September 8, 2014

Signature on File

TO: Donald Lee, Principal
Broadview Elementary School

FROM: Dan Meyer, Project Manager
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment

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

On August 28, 2014, I conducted an assessment at **Broadview Elementary School**. Attached are findings and recommendations for further assessment, remediation, or corrective actions needed.

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 site based custodial 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 us at 754-321-1907.

cc: Shelley Meloni, Executive Director, Facilities & Construction
Mark Dorsett, Manager, Zone 1, Physical Plant Operations Division
Roy Norton, Manager, Custodial/Grounds, Physical Plant Operations Division
Aston Henry, Director, Risk Management
Sonja Coley, Senior Project Manager, Facilities & Construction
Broward Teachers Union
Federation of Public Employees

DM/tc
Enc.

IAQ Assessment

Broadview Elementary

Evaluation Date

Time of Day

Outdoor Conditions Temperature

Relative Humidity

Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO ²	Range	# Occupants
<input type="text" value="301"/>	<input type="text" value="74.4"/>	<input type="text" value="72 - 78"/>	<input type="text" value="62.8"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="763"/>	<input type="text" value="MAX 700 > Ambient"/>	<input type="text" value="6"/>
Noticeable Odor		<input type="text" value="Yes"/>	Visible water damage / staining?		Visible microbial growth?		Amount of material affected
Ceiling	<input type="text" value="2' X 4' Lay in"/>		<input type="text" value="Yes"/>	<input type="text" value="No"/>		<input type="text" value="8 tiles"/>	
Walls	<input type="text" value="Drywall"/>		<input type="text" value="Yes"/>	<input type="text" value="No"/>		<input type="text"/>	
Floor	<input 12"="" type="text" value="12" vinyl"="" x=""/>		<input type="text" value="No"/>	<input type="text" value="No"/>		<input type="text"/>	
Ceiling Clean	<input type="text" value="No"/>	HVAC Supply Grills Clean		<input type="text" value="No"/>	HVAC Return Grills Clean		<input type="text" value="No"/>
Walls Clean	<input type="text" value="No"/>	Inside of Supply Duct Clean		<input type="text" value="Yes"/>	Inside of Return Duct Clean		<input type="text" value="Yes"/>
Flooring Clean	<input type="text" value="Yes"/>	Ceiling at Supply Grills Clean		<input type="text" value="Yes"/>			
Room Surfaces Clean	<input type="text" value="Yes"/>						
Trash Removed	<input type="text" value="Yes"/>	Exhaust Fans Working		<input type="text" value="Yes"/>	Unapproved Chemicals / Cleaners in Room		<input type="text" value="No"/>
Signs of Pests	<input type="text" value="No"/>	Drain Traps Wet		<input type="text" value="Yes"/>	Air Fresheners in Room		<input type="text" value="No"/>
Room Cluttered	<input type="text" value="No"/>	Food if Stored in Room is in Sealed Containers		<input type="text" value="N/A"/>			
Mechanical Equipment Location	<input type="text" value="Bard like HVAC system in classroom"/>					Mechanical Room Clean	<input type="text" value="N/A"/>
Filters Installed Properly	<input type="text" value="Yes"/>	Filters Clean		<input type="text" value="Yes"/>	Inside of HVAC Unit Clean		<input type="text" value="Yes"/>
Condensate Pan Clean	<input type="text" value="Yes"/>	Cooling Coil Clean		<input type="text" value="Yes"/>			
Fresh Air Intake Location	<input type="text" value="Behind Bard unit/Exterior wall"/>					Fresh Air Intake Free of Obstruction	<input type="text" value="Yes"/>
Pollutant Sources Near Air Intake	<input type="text" value="No"/>						

Observations

Open ceiling tiles due to extensive roof leaks. Walls are wet per moisture indicator. Wet wood above ceiling tile has microbial growth. Microbial growth also on ductwork. Water intrusion around windows. Supply grills rusty.

Corrective Actions to be Completed by Site Based Staff

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Corrective Actions to be Completed by PPO

Evaluate and repair roof leaks	▼
Evaluate and repair cause of water damage	▼
Remove and replace wall material as necessary	▼
Repair HVAC to reduce humidity level	▼
Remove and replace HVAC supply grills	▼
Replace ceiling tiles	▼
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IAQ Assessment

Broadview Elementary

Evaluation Date

Time of Day

Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO ²	Range	# Occupants
<input type="text" value="302"/>	<input type="text" value="75.3"/>	<input type="text" value="72 - 78"/>	<input type="text" value="56.8"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="724"/>	<input type="text" value="MAX 700 > Ambient"/>	<input type="text" value="2"/>
Noticeable Odor		<input type="text" value="Yes"/>	Visible water damage / staining?		Visible microbial growth?		Amount of material affected
Ceiling	<input type="text" value="2' X 4' Lay in"/>		<input type="text" value="Yes"/>		<input type="text" value="No"/>		<input type="text" value="6 tiles"/>
Walls	<input type="text" value="Drywall"/>		<input type="text" value="Yes"/>		<input type="text" value="No"/>		<input type="text"/>
Floor	<input 12"="" type="text" value="12" vinyl"="" x=""/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text"/>

Ceiling Clean	<input type="text" value="No"/>	HVAC Supply Grills Clean	<input type="text" value="No"/>	HVAC Return Grills Clean	<input type="text" value="No"/>
Walls Clean	<input type="text" value="No"/>	Inside of Supply Duct Clean	<input type="text" value="Yes"/>	Inside of Return Duct Clean	<input type="text" value="Yes"/>
Flooring Clean	<input type="text" value="Yes"/>	Ceiling at Supply Grills Clean	<input type="text" value="Yes"/>		
Room Surfaces Clean	<input type="text" value="Yes"/>				

Trash Removed	<input type="text" value="Yes"/>	Exhaust Fans Working	<input type="text" value="Yes"/>	Unapproved Chemicals / Cleaners in Room	<input type="text" value="No"/>
Signs of Pests	<input type="text" value="No"/>	Drain Traps Wet	<input type="text" value="Yes"/>	Air Fresheners in Room	<input type="text" value="No"/>
Room Cluttered	<input type="text" value="No"/>	Food if Stored in Room is in Sealed Containers	<input type="text" value="N/A"/>		

Mechanical Equipment Location	<input type="text" value="Bard like HVAC system in classroom"/>		Mechanical Room Clean	<input type="text" value="N/A"/>	
Filters Installed Properly	<input type="text" value="Yes"/>	Filters Clean	<input type="text" value="Yes"/>	Inside of HVAC Unit Clean	<input type="text" value="Yes"/>
Condensate Pan Clean	<input type="text" value="Yes"/>	Cooling Coil Clean	<input type="text" value="Yes"/>		

Fresh Air Intake Location	<input type="text" value="Behind Bard unit/Exterior wall"/>	Fresh Air Intake Free of Obstruction	<input type="text" value="Yes"/>
Pollutant Sources Near Air Intake	<input type="text" value="No"/>		

Observations

Open ceiling tiles due to extensive roof leaks. Walls are wet per moisture indicator. Wet wood above ceiling tile has microbial growth. Microbial growth also on ductwork. Water intrusion around windows. Supply grills rusty. All tack boards are wet.

Corrective Actions to be Completed by Site Based Staff

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Corrective Actions to be Completed by PPO

Evaluate and repair roof leaks	▼
Evaluate and repair cause of water damage	▼
Remove and replace wall material as necessary	▼
Repair HVAC to reduce humidity level	▼
Remove and replace HVAC supply grills	▼
Replace ceiling tiles	▼
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IAQ Assessment

Broadview Elementary

Evaluation Date August 28, 2014

Time of Day 2:00 PM

Outdoor Conditions Temperature 89.6 Relative Humidity 70.1 Ambient CO2 425

Fish	Temperature	Range	Relative Humidity	Range	CO ²	Range	# Occupants	
303	75.7	72 - 78	64.0	30% - 60%	708	MAX 700 > Ambient	1	
Noticeable Odor		Yes	Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling	2' X 4' Lay in		Yes		No		6 tiles	
Walls	Drywall		Yes		No			
Floor	12" x 12" Vinyl		No		No			
Ceiling Clean		No	HVAC Supply Grills Clean		No	HVAC Return Grills Clean		No
Walls Clean		No	Inside of Supply Duct Clean		Yes	Inside of Return Duct Clean		Yes
Flooring Clean		Yes	Ceiling at Supply Grills Clean		Yes			
Room Surfaces Clean		Yes						
Trash Removed		Yes	Exhaust Fans Working		Yes	Unapproved Chemicals / Cleaners in Room		No
Signs of Pests		No	Drain Traps Wet		Yes	Air Fresheners in Room		No
Room Cluttered		No	Food if Stored in Room is in Sealed Containers		N/A			
Mechanical Equipment Location			Bard like HVAC system in classroom			Mechanical Room Clean		N/A
Filters Installed Properly		Yes	Filters Clean		Yes	Inside of HVAC Unit Clean		Yes
Condensate Pan Clean		Yes	Cooling Coil Clean		Yes			
Fresh Air Intake Location			Behind Bard unit/Exterior wall ▼			Fresh Air Intake Free of Obstruction		Yes
Pollutant Sources Near Air Intake			No ▼					

Observations

Open ceiling tiles due to extensive roof leaks. Walls are wet per moisture indicator. Wet wood above ceiling tile has microbial growth. Microbial growth also on ductwork. Water intrusion around windows. Supply grills rusty. All tack boards are wet. Floor tiles buckled from water damage. Strong odor in classroom.

Corrective Actions to be Completed by Site Based Staff

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Corrective Actions to be Completed by PPO

Evaluate and repair roof leaks	▼
Evaluate and repair cause of water damage	▼
Remove and replace wall material as necessary	▼
Repair HVAC to reduce humidity level	▼
Remove and replace HVAC supply grills	▼
Replace ceiling tiles	▼
Replace water damaged floor tile	▼
Evaluate wooden cabinet - water damage	▼

IAQ Assessment

Broadview Elementary

Evaluation Date

Time of Day

Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO ²	Range	# Occupants
<input type="text" value="304"/>	<input type="text" value="75.2"/>	<input type="text" value="72 - 78"/>	<input type="text" value="62.9"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="565"/>	<input type="text" value="MAX 700 > Ambient"/>	<input type="text" value="10"/>
Noticeable Odor		<input type="text" value="Yes"/>	Visible water damage / staining?		Visible microbial growth?		Amount of material affected
Ceiling	<input type="text" value="2' X 4' Lay in"/>		<input type="text" value="Yes"/>		<input type="text" value="Yes"/>		<input type="text" value="6 tiles"/>
Walls	<input type="text" value="Drywall"/>		<input type="text" value="Yes"/>		<input type="text" value="No"/>		<input type="text"/>
Floor	<input 12"="" type="text" value="12" vinyl"="" x=""/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text"/>
Ceiling Clean		<input type="text" value="No"/>	HVAC Supply Grills Clean		<input type="text" value="No"/>	HVAC Return Grills Clean	
Walls Clean		<input type="text" value="No"/>	Inside of Supply Duct Clean		<input type="text" value="Yes"/>	Inside of Return Duct Clean	
Flooring Clean		<input type="text" value="Yes"/>	Ceiling at Supply Grills Clean		<input type="text" value="Yes"/>		
Room Surfaces Clean		<input type="text" value="Yes"/>					
Trash Removed		<input type="text" value="Yes"/>	Exhaust Fans Working		<input type="text" value="Yes"/>	Unapproved Chemicals / Cleaners in Room	
Signs of Pests		<input type="text" value="No"/>	Drain Traps Wet		<input type="text" value="Yes"/>	Air Fresheners in Room	
Room Cluttered		<input type="text" value="No"/>	Food if Stored in Room is in Sealed Containers		<input type="text" value="N/A"/>		
Mechanical Equipment Location			<input type="text" value="Bard like HVAC system in classroom"/>			Mechanical Room Clean	
Filters Installed Properly		<input type="text" value="Yes"/>	Filters Clean		<input type="text" value="Yes"/>	Inside of HVAC Unit Clean	
Condensate Pan Clean		<input type="text" value="Yes"/>	Cooling Coil Clean		<input type="text" value="Yes"/>		
Fresh Air Intake Location			<input type="text" value="Behind Bard unit/Exterior wall"/>			Fresh Air Intake Free of Obstruction	
Pollutant Sources Near Air Intake			<input type="text" value="No"/>			<input type="text" value="Yes"/>	

Observations

Open ceiling tiles due to extensive roof leaks. Walls are wet per moisture indicator. Wet wood above ceiling tile has microbial growth. Microbial growth also on ductwork. Water intrusion around windows. Supply grills rusty. All tack boards are wet. Strong odor in classroom.

Corrective Actions to be Completed by Site Based Staff

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Corrective Actions to be Completed by PPO

Evaluate and repair roof leaks	▼
Evaluate and repair cause of water damage	▼
Remove and replace wall material as necessary	▼
Repair HVAC to reduce humidity level	▼
Remove and replace HVAC supply grills	▼
Replace ceiling tiles	▼
	▼
	▼

IAQ Assessment

Broadview Elementary

Evaluation Date

Time of Day

Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO ²	Range	# Occupants	
<input type="text" value="781"/>	<input type="text" value="74.8"/>	<input type="text" value="72 - 78"/>	<input type="text" value="70.4"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="676"/>	<input type="text" value="MAX 700 > Ambient"/>	<input type="text" value="3"/>	
Noticeable Odor		<input type="text" value="No"/>	Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling	<input type="text" value="2' X 4' Lay in"/>		<input type="text" value="Yes"/>		<input type="text" value="No"/>		<input type="text" value="4 tiles"/>	
Walls	<input type="text" value="Drywall"/>		<input type="text" value="Yes"/>		<input type="text" value="No"/>		<input type="text"/>	
Floor	<input 12"="" type="text" value="12" vinyl"="" x=""/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text"/>	
Ceiling Clean		<input type="text" value="Yes"/>	HVAC Supply Grills Clean		<input type="text" value="Yes"/>	HVAC Return Grills Clean		<input type="text" value="Yes"/>
Walls Clean		<input type="text" value="Yes"/>	Inside of Supply Duct Clean		<input type="text" value="Yes"/>	Inside of Return Duct Clean		<input type="text" value="Yes"/>
Flooring Clean		<input type="text" value="Yes"/>	Ceiling at Supply Grills Clean		<input type="text" value="Yes"/>			
Room Surfaces Clean		<input type="text" value="Yes"/>						
Trash Removed		<input type="text" value="Yes"/>	Exhaust Fans Working		<input type="text" value="Yes"/>	Unapproved Chemicals / Cleaners in Room		<input type="text" value="No"/>
Signs of Pests		<input type="text" value="No"/>	Drain Traps Wet		<input type="text" value="Yes"/>	Air Fresheners in Room		<input type="text" value="No"/>
Room Cluttered		<input type="text" value="No"/>	Food if Stored in Room is in Sealed Containers		<input type="text" value="N/A"/>			
Mechanical Equipment Location			<input type="text" value="Bard like HVAC system in classroom"/>			Mechanical Room Clean		<input type="text" value="N/A"/>
Filters Installed Properly		<input type="text" value="Yes"/>	Filters Clean		<input type="text" value="Yes"/>	Inside of HVAC Unit Clean		<input type="text" value="Yes"/>
Condensate Pan Clean		<input type="text" value="Yes"/>	Cooling Coil Clean		<input type="text" value="Yes"/>			
Fresh Air Intake Location			<input type="text" value="Behind Bard unit/Exterior wall"/>			Fresh Air Intake Free of Obstruction		<input type="text" value="Yes"/>
Pollutant Sources Near Air Intake			<input type="text" value="No"/>					

Observations

Corrective Actions to be Completed by Site Based Staff

<input type="text"/>	<input type="text" value="▼"/>
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Corrective Actions to be Completed by PPO

Evaluate and repair roof leaks	<input type="text" value="▼"/>
Evaluate and repair cause of water damage to wall material	<input type="text" value="▼"/>
Remove and replace wall material as necessary	<input type="text" value="▼"/>
Repair HVAC to reduce humidity level	<input type="text" value="▼"/>
<input type="text"/>	<input type="text" value="▼"/>
<input type="text"/>	<input type="text" value="▼"/>
<input type="text"/>	<input type="text" value="▼"/>