

managing risk with responsibility

Aston A. Henry, Dire	ector
Risk Management De	epartment

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April 23, 2015	Signature on File	For Custodial Supervisor Use Only
TO:	Michelle Alvarez, Principal Bethune Elementary	Custodial Issues Addressed Custodial Issues Not Addressed
FROM:	Richard Rosa, Project Manager Risk Management Department	
SUBJECT:	Indoor Air Quality (IAQ) Assessment	

On April 21, 2015, I conducted an assessment at **Bethune 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 754-321-1900.

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

RR/jj Enc.

	IAQ Assessi	ment		
Bethune	Elementary Evaluation Dat	e April 21, 2015	Time of Day 12:	15 PM
Outdoor Conditions Tempera	ature 77.6 Relative	e Humidity 93.6	Ambient CO2 4	42
		Range <u>CO</u> % - 60% 474		ccupants
Noticeable Odor No	Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling 12"x12" Walls Plaster Floor 12" x 12" Vinyl	No No	No No		
Ceiling Clean Yes Walls Clean Yes Flooring Clean Yes	HVAC Supply Grills Clean Inside of Supply Duct Clean	Yes	HVAC Return Grills Clean Inside of Return Duct Clean	N/a N/A
Room Surfaces No Clean	Ceiling at Supply Grills Clean	Yes		
Trash RemovedYesSigns of PestsYesRoom ClutteredYes	Exhaust Fans Working Drain Traps Wet Food if Stored in Room is in Sealed Containers	N/A N/A N/A	Unapproved Chemicals / Cleaners in Room Air Fresheners in Room	No
Mechanical Equipment Location Filters Installed Properly N/A Condensate Pan Clean N/A		N/A N/A	Mechanical Room Clean Inside of HVAC Unit Clean	n/a N/A
Fresh Air Intake Location Pollutant Sources Near Air Intake	Roof top Standing water	▼	Fresh Air Intake Free of Obstruction	Yes
Observations The roof top units were not acce N/A Not Accessible N/A Not applicable	ssible due to the rain.			

Install proper filters, tape and date.	▼
Dust on Jalousie windows, clean both	▼
sides of windows	▼
Leave one Jalousie window open for better cross	▼
ventilation due to return is in the corridor	▼
Coordinate a schedule between HFSP and	▼
classroom Instructor to clean properly due to clutte	er ▼
Bug droppings on window sills, call in work order	•

Replace broken and missing 12" x 12" tile	▼
in Corridor	▼
Repair HVAC to Reduce Humidity Levels	▼
	▼
	▼
	▼
	▼
	▼

	IAQ Assess	ment		
Bethune	Elementary Evaluation Dat	e April 21, 2015	Time of Day 11:	45 AM
Outdoor Conditions Tempera	ture 77.6 Relative	Humidity 93.6	Ambient CO2 4	42
		Range CO % - 60% 505		ccupants
Noticeable Odor No	Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling 12"x12" Walls Plaster	No No	No		
Floor 12" x 12" Vinyl	Νο	No		
Ceiling Clean Yes Walls Clean Yes	HVAC Supply Grills Clean	Yes	HVAC Return Grills Clean	N/a
Flooring Clean Yes	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	N/A
Room Surfaces Yes Clean	Ceiling at Supply Grills Clean	Yes		
Trash Removed Yes	Exhaust Fans Working	N/A	Unapproved Chemicals / Cleaners in Room	No
Signs of Pests No	Drain Traps Wet	N/A	Air Fresheners	No
Room Cluttered No	Food if Stored in Room is in Sealed Containers	N/A	in Room	
Mechanical Equipment Location	Roof Top		Mechanical Room Clean	n/a
Filters Installed Properly N/A	Filters Clean	N/A	Inside of HVAC Unit Clean	N/A
Condensate Pan Clean N/A	Cooling Coil Clean	N/A		
Fresh Air Intake Location	Roof top	▼	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	Standing water	▼	of Obstruction	
Observations				
The roof top units were not acce N/A Not Accessible N/A not applicable	essible due to the rain.			

Install proper filters, tape and date. ▼ Mold growth on Jalousie windows, clean both ▼ sides of windows ▼ Leave one Jalousie window open for better cross ▼ ventilation due to return is in the corridor ▼ ▼ ▼ ✓ ▼ ✓ ▼ ✓ ▼ ✓ ▼ ✓ ▼ ✓ ▼ ✓ ▼		
sides of windows ▼ Leave one Jalousie window open for better cross ▼	Install proper filters, tape and date.	▼
Leave one Jalousie window open for better cross	Mold growth on Jalousie windows, clean both	▼
	sides of windows	▼
ventilation due to return is in the corridor ▼ ▼ ▼ ▼ ▼ ▼ ▼	Leave one Jalousie window open for better cross	▼
▼ ▼ ▼	ventilation due to return is in the corridor	▼
▼ ▼		▼
▼		▼
		▼

Replace broken and missing 12" x 12" tile	▼
in Corridor	▼
Repair HVAC to Reduce Humidity Levels	▼
	▼
	▼
	▼
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	IAQ Assessi	ment		
Bethune	Elementary Evaluation Dat	e April 21, 2015	Time of Day 12:	45 PM
Outdoor Conditions Tempera	ture 77.6 Relative	Humidity 93.6	Ambient CO2 4	42
		Range CO ² % - 60% 507		cupants
Noticeable Odor No	Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling 12"x12" Walls Plaster	No	No		
Floor12" x 12" Vinyl	No	No		
Ceiling Clean Yes Walls Clean Yes	HVAC Supply Grills Clean	Yes	HVAC Return Grills Clean	N/a
Flooring Clean Yes	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	N/A
Room Surfaces No	Ceiling at Supply Grills Clean	Yes		
Trash Removed Yes	Exhaust Fans Working	N/A	Unapproved Chemicals / Cleaners in Room	No
Signs of Pests No	Drain Traps Wet	N/A		
Room Cluttered Yes	Food if Stored in Room is in Sealed Containers	N/A	Air Fresheners in Room	No
Mechanical Equipment Location	Roof Top		Mechanical Room Clean	n/a
Filters Installed Properly N/A	Filters Clean	N/A	Inside of HVAC Unit Clean	N/A
Condensate Pan Clean N/A	Cooling Coil Clean	N/A		
Fresh Air Intake Location	Roof top	▼	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	Standing water	▼	of Obstruction	
Observations				
The roof top units were not acce N/A Not Accessible	ssible due to the rain.			
N/A Not applicable				

Install proper filters, tape and date.	▼
Dust on Jalousie windows, clean both	▼
sides of windows	▼
Leave one Jalousie window open for better cross	▼
ventilation due to return is in the corridor	▼
Coordinate a schedule between HFSP and	▼
classroom Instructor to clean properly due to clutter	▼
	▼

Replace broken and missing 12" x 12" tile	▼
in Corridor	▼
Repair HVAC to Reduce Humidity Levels	▼
	▼
	▼
	▼
	▼
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Fish Temperature Range Relative Humidity Range CO2 Range # Occupants 611 73.0 72 - 78 62.7 30% - 60% 507 MAX 700 >		IAQ Assess	ment		
Fish Temperature Range Relative Humidity Range CO2 Range # Occupants 611 73.0 72 - 78 62.7 30% - 60% 507 MAX 700 >	Bethune	Elementary Evaluation Date	te April 21, 2015	Time of Day 1:1	5 PM
611 73.0 72 - 78 62.7 30% - 60% 507 MAX 700 > Ambient Noticeable Odor No Visible water damage / staining? Visible microbial growth? Amount of material affected Ceiling 12"x12" No No	Dutdoor Conditions Tempera	ature 77.6 Relative	e Humidity 93.6	Ambient CO2 4	42
Noticeable Odor No material affected Ceiling 12"x12" No No Walls Plaster No No Floor 12" x12" No No Ceiling Clean Yes HVAC Supply No Grills Clean Yes HVAC Supply Yes Walls Clean Yes Inside of Supply Yes Flooring Clean Yes Inside of Supply Yes Flooring Clean Yes Duct Clean N/A Room Surfaces No Ceiling at Supply Yes Grills Clean Yes Duct Clean No Signs of Pests No Drain Traps Wet N/A Room Cluttered Yes Food if Stored in Room is in Sealed Containers N/A Mechanical Equipment Location Roof Top Mechanical Room Clean N/A Fresh Air Intake Location Roof top Yes Fresh Air Intake Free of Obstruction Yes Pollutant Sources Near Air Standing water Y Fresh Air Intake Free of Obstruction Yes Observations The roof top units wer			5	MAX 700 >	cupants
Walls Plaster No No No Floor 12" x 12" Vinyl No No No Ceiling Clean Yes HVAC Supply Grills Clean Yes HVAC Return Grills Clean N/a Walls Clean Yes Inside of Supply Duct Clean Yes Inside of Return Duct Clean N/a Room Surfaces No Ceiling at Supply Grills Clean Yes Inside of Return Duct Clean N/A Trash Removed Yes Exhaust Fans Working N/A Unapproved Chemicals / Cleaners in Room No Signs of Pests No Drain Traps Wet N/A Air Fresheners in Room No Mechanical Equipment Location Roof Top Mechanical Room Clean n/a Fliters Installed Properly N/A Filters Clean N/A Inside of HVAC Unit Clean N/A Fresh Air Intake Location Roof top Yes Fresh Air Intake Free of Obstruction Yes Observations Tooling water Yes The roof top units were not accessible due to the rain. Tooling to the rain. Tooling to the rain.	Noticeable Odor No				
Ceiling Clean Yes HVAC Supply Grills Clean Yes HVAC Return Grills Clean N/a Walls Clean Yes Inside of Supply Duct Clean Yes Inside of Return Duct Clean N/a Room Surfaces No Ceiling at Supply Grills Clean Yes Inside of Return Duct Clean N/A Trash Removed Yes Exhaust Fans Working N/A Unapproved Chemicals / Cleaners in Room No Signs of Pests No Drain Traps Wet N/A Air Fresheners in Sealed Containers No Mechanical Equipment Location Roof Top Mechanical Room Clean n/a Filters Installed Properly N/A Cooling Coil Clean N/A Fresh Air Intake Location Roof top Yes Fresh Air Intake Free of Obstruction Yes Pollutant Sources Near Air Intake Standing water Y Yes Yes Yes	3				
Walls Clean Yes Grills Clean Yes Grills Clean N/a Walls Clean Yes Inside of Supply Duct Clean Yes Inside of Return Duct Clean N/A Room Surfaces Clean No Ceiling at Supply Grills Clean Yes Inside of Return Duct Clean N/A Trash Removed Yes Exhaust Fans Working N/A Unapproved Chemicals / Cleaners in Room No Signs of Pests No Drain Traps Wet N/A Air Fresheners in Room No Room Cluttered Yes Food if Stored in Room is in Sealed Containers N/A Mechanical Room Clean n/a Filters Installed Properly N/A Filters Clean N/A Inside of HVAC Unit Clean N/A Fresh Air Intake Location Roof top ▼ Fresh Air Intake Free of Obstruction Yes Observations Standing water ▼ Standing water ▼ Yes	Floor 12" x 12" Vinyl	No	No		
Flooring Clean Yes Inside of Supply Duct Clean Yes Inside of Return Duct Clean N/A Room Surfaces Clean No Ceiling at Supply Grills Clean Yes Inside of Return Duct Clean N/A Trash Removed Yes Exhaust Fans Working N/A Unapproved Chemicals / Cleaners in Room No Signs of Pests No Drain Traps Wet N/A Air Fresheners in Sealed Containers No Mechanical Equipment Location Roof Top Mechanical Room Clean n/a Filters Installed Properly N/A Filters Clean N/A Inside of HVAC Unit Clean N/A Fresh Air Intake Location Roof top ▼ Fresh Air Intake Free of Obstruction Yes Observations Standing water ▼ Tresh Air Intake Free of Obstruction Yes			Yes		N/a
Clean Grills Clean Yes Trash Removed Yes Exhaust Fans Working N/A Unapproved Chemicals / Cleaners in Room Signs of Pests No Drain Traps Wet N/A Air Fresheners in Room No Room Cluttered Yes Food if Stored in Room is in Sealed Containers N/A Air Fresheners in Room No Mechanical Equipment Location Roof Top Mechanical Room Clean n/a Filters Installed Properly N/A Filters Clean N/A Inside of HVAC Unit Clean N/A Condensate Pan Clean N/A Cooling Coil Clean N/A Fresh Air Intake Free of Obstruction Yes Observations Standing water V The roof top units were not accessible due to the rain. V			Yes		N/A
Signs of Pests No No Drain Traps Wet Room Cluttered Yes Food if Stored in Room is in Sealed Containers N/A Mechanical Equipment Location Roof Top Mechanical Equipment Location Roof Top Mechanical Room Clean n/a Filters Installed Properly N/A Condensate Pan Clean N/A Condensate Pan Clean N/A Cooling Coil Clean N/A Fresh Air Intake Location Roof top Vestor Fresh Air Intake Location Pollutant Sources Near Air Standing water Intake Standing water Observations The roof top units were not accessible due to the rain.			Yes		
Signs of Pests No Drain Traps Wet N/A Air Fresheners in Room No Room Cluttered Yes Food if Stored in Room is in Sealed Containers N/A Air Fresheners in Room No Mechanical Equipment Location Roof Top Mechanical Room Clean n/a Filters Installed Properly N/A Filters Clean N/A Inside of HVAC Unit Clean N/A Condensate Pan Clean N/A Cooling Coil Clean N/A Fresh Air Intake Free of Obstruction Yes Pollutant Sources Near Air Intake Standing water ▼ Fresh Air Intake Free of Obstruction Yes	Trash Removed Yes	Exhaust Fans Working	N/A		No
Room Cluttered Yes Food if Stored in Room is in Sealed Containers N/A in Room Mechanical Equipment Location Roof Top Mechanical Room Clean n/a Filters Installed Properly N/A Filters Clean N/A Inside of HVAC Unit Clean N/A Condensate Pan Clean N/A Cooling Coil Clean N/A Fresh Air Intake Location N/A Fresh Air Intake Free of Obstruction Yes Pollutant Sources Near Air Intake Standing water ▼ Fresh Air Intake Free of Obstruction Yes Observations The roof top units were not accessible due to the rain. Image: Content in the roof in t	Signs of Pests No	Drain Traps Wet	N/A		
Filters Installed Properly N/A Filters Clean N/A Inside of HVAC Unit Clean N/A Condensate Pan Clean N/A Cooling Coil Clean N/A N/A Fresh Air Intake Location Fresh Air Intake Free of Obstruction Fresh Air Intake Free of Obstruction Yes Pollutant Sources Near Air Intake Standing water ▼ Fresh Air Intake Free of Obstruction Yes Observations The roof top units were not accessible due to the rain. Fresh Air Intake Fresh Air Intake Fresh Air Intake	Room Cluttered Yes		N/A		
Condensate Pan Clean N/A Fresh Air Intake Location Roof top Pollutant Sources Near Air Standing water Intake V Observations The roof top units were not accessible due to the rain.	Mechanical Equipment Location	Roof Top		Mechanical Room Clean	n/a
Fresh Air Intake Location Roof top Image: Construction Fresh Air Intake Free of Obstruction Yes Pollutant Sources Near Air Intake Standing water Image: Construction Image: Construction Yes Observations The roof top units were not accessible due to the rain. Image: Construction Image: Construction <td< td=""><td>Filters Installed Properly</td><td>Filters Clean</td><td>N/A</td><td>Inside of HVAC Unit Clean</td><td>N/A</td></td<>	Filters Installed Properly	Filters Clean	N/A	Inside of HVAC Unit Clean	N/A
Pollutant Sources Near Air Standing water of Obstruction Yes Intake Intak	Condensate Pan Clean N/A	Cooling Coil Clean	N/A		
Pollutant Sources Near Air Intake Standing water Image: Construction Observations Image: Construction Image: Construction The roof top units were not accessible due to the rain. Image: Construction Image: Construction	Fresh Air Intake Location	Roof top	▼		Yes
The roof top units were not accessible due to the rain.		Standing water	▼	of Obstruction	·
	N/A Not Accessible	essible due to the rain.			
N/A Not Applicable					

Install proper filters, tape and date.	▼
Dust on Jalousie windows, clean both	▼
sides of windows	▼
Leave one Jalousie window open for better cross	▼
ventilation due to return is in the corridor	▼
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